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ABSTRACT

The first day of hearings features the testimony of Admiral H. M. Rickover and Dr. Mary Berry, Assistant Secretary for Education, on the quality of education and what can be done about it. Subsequent testimony centers on the testing of students. Those offering statements are William W. Turnball, president of Educational Testing Service; Dr. Roy H. Forbes, director of the National Assessment of Educational Progress; and Willard Wirtz, chairman of the Advisory Panel on the Scholastic Aptitude Test Score Decline. Other evidence offered includes samples from tests, descriptions of the characteristics of eight nationally normed tests, and description of the assessment of basic skills being done in the nation. (IRT)

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QUALITY OF EDUCATION, 1977

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HEARINGS

BEFORE THE

SUBCOMMITTEE ON EDUCATION, ARTS AND HUMANITIES

OF THE

COMMITTEE ON HUMAN RESOURCES
UNITED STATES SENATE

NINETY-FIFTH CONGRESS

FIRST SESSION

ON

EXAMINATION INTO THE QUALITY OF EDUCATION OF OUR
NATION'S STUDENTS AND MEANS OF IMPROVING COMPETENCY
IN BASIC SKILLS AT VARIOUS GRADE LEVELS

JULY 14, 27; AND SEPTEMBER 22, 1977

Printed for the use of the Committee on Human Resources

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QUALITY OF EDUCATION, 1977

THURSDAY, JULY 14, 1977

U.S. SENATE,
SUBCOMMITTEE ON EDUCATION,
ARTS AND THE HUMANITIES
OF THE COMMITTEE ON HUMAN RESOURCES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:04 a.m., in room 1318, Dirksen Senate Office Building, Senator Claiborne Pell (chairman of the subcommittee) presiding.

Present: Senators Pell, Schweiker, and Hayakawa.

Senator PELL. The Subcommittee on Education, Arts and Humanities will come to order.

One of the issues involving education which is of concern to all of us, particularly those of us who are parents, as every recent opinion poll has shown, is the nagging issue of educational quality. Parents are convinced that their children are simply not learning. Whether this is true or not, this is the common perception—that today's students are achieving less than those of preceding generations.

There are many alarming indications that students simply do not read, write, or add and subtract as well as they used to.

Vice Adm. James D. Watkins, Chief of Naval Personnel, recently complained that illiteracy among young Americans has become so widespread that the Navy is finding it difficult to secure recruits who can read well enough to function. Having been a seaman second class myself, once upon a time, I know that that does not take a tremendous amount of reading and writing. He said that the Navy is now required to conduct remedial reading courses, to teach recruits to read at the sixth grade level, so that they can understand urgent warnings.

There are other signals that the public is becoming concerned about low achievement. Today's Washington Post reports that the District of Columbia School Board voted unanimously last night to impose minimum achievement standards for both high school graduation and for promotion from grade to grade. Such standards would be enforced by a citywide testing program—and I congratulate the District School Board on this step.

However, it is unclear when such tests or standards would go into effect. The State of Virginia voted to enforce graduation requirements, but was then forced to postpone their effectiveness until 1984. Maryland has adopted a set of minimum reading standards, but there is simply no mechanism to enforce them. Throughout the Nation, nine States have voted to have minimum competency requirements as a condition for graduation from high school, but so far such standards have been put into effect only in Arizona.

This is a problem of tremendous concern. It may or may not be one with which the Federal Government can deal. However, this hearing is intended to explore both the problem and potential solutions—Federal, State, and local. It marks the first hearing in a series that this subcommittee will be conducting in the area of elementary and secondary education, leading up to the reauthorization of the Elementary and Secondary Education Act.

It is a particular pleasure to have as our first witness today, Admiral Rickover, the well-known father of our nuclear-powered Navy. We are all well aware of Admiral Rickover's outstanding achievements in developing the world's first nuclear-powered submarine and the first civilian electric utility nuclear-powered generation station in Pennsylvania.

For more than a quarter of a century, he has been in charge of the naval nuclear propulsion program, responsible not only for the design and construction of the nuclear-powered plants of our naval warships, but also for selection and training of the crews that operate them. He interviews all the officers assigned to these nuclear ships and selects them personally. An example of this excellent selection is the fact that many years ago, he selected a young lieutenant, Jimmy Carter, who has since been selected for a far more responsible job by the American people. Officers and enlisted men undergo an exhaustive training program in his nuclear power schools.

We of this subcommittee are particularly grateful to him for his contributions in the field of education. In the era of Sputnik, it was Admiral Rickover who focused the Nation's attention on the shortcomings in this Nation's educational system—shortcomings which contributed substantially to the technological gap between this Nation and the Soviet Union in this particular field.

As usual, he is not one to skip his homework. He has written three fine books on education: "Education and Freedom," "Swiss Schools and Ours: Why Theirs Are Better," and "American Education—A National Failure."

Many professional educators have attacked Admiral Rickover's views as an unwarranted intrusion into their domain. Yet, few would deny that he has probably done as much to spur educational reform as any other national figure. In this regard, he has spurred this subcommittee.

Some years ago, he proposed legislation calling for increased quality in our Nation's schools. I introduced this bill, which was cosponsored by Senator Cooper. Part of its provisions became law, but alas, were never implemented by the executive branch, then under another administration.

Today we are faced with trying problems in education. It is the function of this subcommittee to maintain oversight of the education function. This is what we have in mind.

It is an honor to have you with us, Admiral. If you would start off, I would be delighted. Later on, I look forward to introducing Dr. Berry, and then we can have dialog back and forth.

Admiral Rickover, you may lead off.

STATEMENT OF ADM. H. G. RICKOVER, U.S. NAVY, ENERGY RESEARCH AND DEVELOPMENT, COMMANDER FOR NUCLEAR POWER

Admiral RICKOVER. Thank you, Mr. Chairman.

I'm sure you realize that you are out of step with the educational establishment in praising me. This could cause you to fall out of favor with the educationists. However, since they depend on Congress for a considerable portion of their funds, I expect your ostracism would be short lived.

I will now proceed with my prepared statement.

Thank you for the opportunity to present my views on American education to this distinguished committee.

In my search for people capable of meeting the demands of the naval nuclear propulsion program, I have had a unique opportunity to judge the products of our schools. Over the last three decades, I have interviewed thousands of top graduates of our colleges and the Naval Academy in search of young people with intelligence, integrity, and initiative. In these people, I look not so much for technical competence—we will teach them that—but for the ability to think for themselves, to understand the basic principles of the courses they have taken, and to speak clearly. From what I have seen, our schools are not providing a good education.

The heart of any civilization is its education. Of the glories of ancient Greece, none was greater than Plato's Academy. Of all that the Middle Ages created, nothing was greater than the universities. Of the spirit of the Renaissance, it is humanism that is its greatest legacy. We will be tomorrow what our schools are today.

Our future citizens are now students in elementary and secondary schools. We have a right as well as a duty to ask how well the schools, teachers, administrators, and parents are meeting their responsibility. Several signs warn us that our educational system is falling behind the needs of our society.

In the midsixties scores of college entrance examinations began to decline. The drop is revealed in the scores for the scholastic aptitude tests, which are the entrance examinations required by most colleges. The American College Tests, the Minnesota Scholastic Achievement Test and the Iowa Tests of Educational Development show a similar trend.

The reasons are complex and are still being studied. Possibly the drop does not reflect a real diminution in student-learning skills. Perhaps it is because the number of students taking the tests have greatly increased. Perhaps poorer students have been urged to take the tests so as to gain admission to college. However, there is other evidence of the need for improvement of our educational process.

Last year, the private higher education annual report found ". . . an appalling decline in the preparation of newly admitted students in reading, writing, and mathematics." The National Assessment of Educational Progress, a federally financed organization, recently studied writing samples of 7,500 students. Only a tenth of the 9-year-olds, a third of the 13-year-olds and half the 17-year-olds could organize ideas on paper. Most wrote random sentences. In 1975 the

University of California reported that 75 percent of the State's best high school graduates failed a nationally used English composition test. They could not express themselves, choose the right word to complete a thought, or organize their writing.

My own experience, based on the results of interviews I have conducted of over 12,000 graduates from some 130 different colleges and universities over the past 30 years, confirms that there is a serious problem. Certain impressions emerge from these interviews. For example, although a student's record may show that he has taken a variety of courses with impressive titles, his basic knowledge of fundamentals has declined markedly in relation to his counterpart of 15 years ago. It is not uncommon for me to interview a recent graduate from a "good" college who has received a masters degree in mathematics but who is incapable of solving a 10th grade algebra problem. I have interviewed students receiving a bachelors degree in electrical engineering who do not know the difference between alternating and direct current. I could recite case after case, not only in engineering, mathematics, and science, but in history, foreign language, economics and other fields, where the students could not discuss even the fundamentals of their disciplines. Yet each of these students honestly believed that he had done well in school and had learned what was expected of him.

This is a tragedy. To further emphasize the severity of the problem, you should recognize that I only interview students with relatively high standings in their schools.

The problem is not confined to the colleges. In the nuclear program, I am also responsible for training enlisted personnel. Within the past 5 years, I have been compelled to incorporate a remedial "prenuclear power school" because of the increasing attrition due to academic failures. I now teach courses in the basics of mathematics, physics and chemistry to enlisted students before they enter the nuclear power school. Here again, remember that we only accept into the nuclear program those enlisted men of the highest mental caliber. All must have high school diplomas. You can appreciate the problem faced by the rest of the Navy in attempting to train personnel of lesser ability to handle the complex equipment now in use.

Outside of the nuclear program, the Navy, in my opinion, has fallen prey to the siren of easy education. Today, for a number of reasons, the Navy uses the so-called "self-pace" method of teaching. The student can proceed at his own pace using programed lesson plans with no meaningful checks along the way to determine how much he has learned. When he thinks he has learned a given lesson he takes a single test and then proceeds to the next lesson. Often the answers are supplied on the same page as the questions. After going through the required number of lessons, he then graduates himself and proceeds to a ship. To illustrate the absurdity of the situation, there are examples where a foreign student, who could not read or write English, successfully passed the course.

Before we put too much blame on the Navy or think this is just a Navy problem, let me remind you that this method of teaching was not devised by the Navy itself. The Navy sought "expert" advice from recognized educators throughout the United States—educators who have been and are shaping the educational methods of our elementary schools, high schools and colleges. These are the so-called experts. Unfortunately, they never have to use the products of their efforts, and I think even if they did, they could not recognize the difference. If their system is a failure, they blame ethnic background, unhappy homelife or poor motivation.

Only some of the elementary and secondary students will go on to college, but nearly all will become voters. How well prepared are they to exercise the rights, responsibilities and obligations of citizenship?

The erosion of elementary and secondary education is undermining our institutions of higher education. Faced with an increasing number of freshmen who cannot write coherent sentences or handle simple arithmetic, more and more colleges and universities are forced to offer remedial courses. Many college professors state that students are not as well prepared as they were a few years ago. What a waste it is for universities to have to teach fundamentals that should have been mastered earlier. They have, however, brought the problem on themselves. Instead of refusing admittance to unqualified students, they continue to offer remedial courses in record numbers in order to maintain enrollment.

The effectiveness of such remedial courses remains a big question. In the words of one English department head at a major university:

> It is a breathtakingly difficult assignment to undo the failure of a lifetime in one or two academic terms.

This statement contains a profound truth. The years of youth are precious—a unique time when the mind is at its freshest and most inquisitive. If it is dulled, it may never recover the sharp edge of eagerness and enthusiasm.

Some parts of the education establishment seem to discount the decline in test scores. Some educators have questioned whether the national test score averages should be made available to the public. Others assert that standardized tests are a violation of human and civil rights and that they discriminate against minorities and poor readers.

Did you hear that, Dr. Berry?

Dr. BERRY. I heard it.

Admiral RICKOVER. Tests of this sort are not intended to measure a student's value as a person, but to measure the extent of his knowledge and the quality of his work. Parents have a right and a need to know where their children stand academically. Similarly, the public has a right and need to know how their schools and school districts stand in relation to the national and regional averages in relation to previous test results. The abolition of tests or the failure to disclose test scores would be a violation of these rights.

Unfortunately, the preponderance of data collected on education is used to measure what resources we invest in our education system, rather than what it has acomplished. Those statistics which purport to measure our return on investment do so primarily in quantitative terms such as a number of desks filled or diplomas awarded. Standardized tests, while not perfect, are one of the few measures that can give us some qualitative indication of what our children are learning and how well our schools are doing their job. Yet many educators emphasize other statistics which have nothing to do with the quality of education.

Grade inflation is a particularly pernicious result of declining standards in education. The decline in academic skills shown by achievement test scores is masked to a large extent by the fact that students nationwide are receiving higher grades. At many colleges, three quarters of the grades given are A's or B's. Grade inflation at high school appears to be just as prevalent. The high school diploma and the college degree have been cheapened to the point where oftentimes they no longer stand for recognition of academic achievement.

This situation of "grade creep" has actually forced me to conduct examinations of students that come from outstanding colleges. You would be shocked, Mr. Chairman, to see the disparity between the results of these examinations and the official grade transcripts. We can no longer rely on official records from even the top 100 colleges in this country. These schools are perpetrating a great fraud on the students and on the public by seldom failing anyone. Without a proper education, these students are going to fail later on in life anyway. Better that they find out the truth now, rather than in the cold harsh world, where there are no inflated scores.

A tragic example of grade inflation occurred here in Washington last year. Despite a nearly straight A average, the valedictorian of a high school failed to meet the entrance requirements of a local university. His college board examination scores were but half of what the university expected. One official speculated that, since discipline is such a major problem in the District schools, " * * * a nice kid might have his grades inflated. * * *" In any event, the result could only have been a crushing disappointment to the boy and his parents. They were deluded into thinking he was getting a good education; they were defrauded.

Can you imagine what that poor boy—who has been lauded throughout his school career—thinks now of society and the people who allowed him to be defrauded in this way?

I don't believe that the Office of Education has ever publicly acknowledged the grade inflation phenomenon. Perhaps they are too busy with the business of handing out grants. I wouldn't be surprised, though, if someday they fund a million dollar study to determine why that boy failed. I could tell them for free: so could the boy. I suggest that his teachers be given the same kind of examination the boy had to go through to find out how they would do. I think they would probably do worse. In fact, I think they would probably learn from him. When a teacher says he learns from his students—it is probably true. Any teacher who says that probably does learn from his students.

In another case, a Long Island, N.Y., high school graduate brought suit against the school system for "educational malpractice." He alleged he was not taught enough reading and writing to get and hold a decent job. In evidence was his high school transcript, showing that he was promoted from grade to grade, despite a consistent record of failing marks. For example, he was admitted to senior English without ever having passed either sophomore or junior English. I'm sure you remember the famous case of the high school student who couldn't read his diploma.

Much has been written about grade inflation, but it is an effect rather than a cause. It is the inevitable result of restructuring courses and methods of teaching to demand less work on the part of the students. Where demands are low, students get higher grades than they earn.

When I interview a candidate who does not seem to know much about the subjects he has studied, I frequently find he is the product of an educational process which contains few comprehensive lesson plans detailing on a day-to-day basis, what the student must read or learn; where he is given a general outline of the entire course and told to proceed at will; where the few tests given cover but broad aspects of the material; or where grades are primarily based on student participation in class.

There will always be those few students who, for whatever reason, will excel and will, on their own, master the subject. They do this in spite of the system rather than because of it. In many cases, the teacher is more an umpire than a teacher; he is not required nor expected to know much. In due deference to Dr. Berry, I use "he" in its generic sense, because there isn't time to use the term "he or she." I think of "he" as a member of the human race and I hope no Ms. in this room is offended by that generalization.

Dr. **Berry**. There are more "she's" than "he's."

Admiral **Rickover**. Yes; there are more "she's" than "he's" apparently, there are not as many attractive women as there are men, because there are many more unmarried women than there are unmarried men.

[Laughter.]

Senator **Pell**. Women live longer than men.

Admiral **Rickover**. Sir?

Senator **Pell**. Women live longer—that's why we have more of them, which helps account for that.

Admiral **Rickover**. They do this in spite of the system rather than because of it.

[Laughter.]

Senator **Pell**. All right.

Admiral **Rickover**. In many cases, the teacher is more an umpire than a teacher. He is not required nor expected to know much. As long as he can "relate" to the students, he is doing his job. From all of this evolves grade inflation. But the problem is more fundamental. The student has not learned, but has been led to believe that he has mastered the course because he has done what the system calls for. He is happy; the teacher is happy; the school is happy; the parents are happy. Only society is unhappy.

Parents and students must accept the unpleasant fact that today's awards and diplomas do not necessarily imply academic achievement. Grade inflation, far from helping students, robs them of a proper education; too late, they discover how little they really learned. Accepting a diploma without an education makes no more sense than getting vaccinated and not finding out if the vaccination took. A person who believes he is safely vaccinated, but is not, is a danger to himself and to others.

In an address to the Washington area graduating classes of 1977, the Rev. Jesse Jackson made a similar point. He cautioned that accepting a diploma without an education makes no more sense than paying for a shopping cart full of groceries and leaving the store with just the receipt. If our educational system is to be improved, parents and students must view education as the pursuit of knowledge and the development of essential skills such as reading, writing, and the ability to reason—not simply the pursuit of grades and diplomas.

The problem of functional illiteracy is growing at a time when technology demands special care. Recent Navy experience illustrates this problem. The Chief of Naval Personnel recently disclosed that we are having trouble finding recruits who read well enough to do their job. He cited the example of a sailor who, because he could not read instructions, caused $250,000 in damage to a diesel engine by attempting to make repairs based solely on illustrations in the manual. As a result of the increasing number of high school graduates who cannot read adequately, the Navy now requires many of its recruits to enroll in a 6-week remedial course aimed at raising their reading ability to the sixth grade level.

Senator PELL. I believe that in order to give adequate time——

Admiral RICKOVER. Sir?

Senator PELL. In order to give adequate time to hear Dr. Berry and then go on to some various questions, I hope we might be able to digest the remaining two-thirds of your statement.

Admiral RICKOVER. Sir, I would like to digest my statement, but I'm afraid I would have diarrhea if I did. [Laughter.] There are other indications of the severity of the reading problem. This year saw the publication of a new magazine aimed specifically at junior high school students who are able to read only at the second grade level.

In answer to your question, Mr. Chairman, I have devoted a great deal of time to the preparation of this statement and I believe I have a message that should be of value not only to your committee, but to anyone else in this country who is interested in education, so I would hope you would pardon me, sir, for continuing with my statement. But I will shorten it where I can.

The publisher established a subscription goal of 350,000 for the new magazine. He already has in circulation a magazine geared to high school students who read at the fourth to sixth grade level.

Parents share in the responsibility for inadequacies in our children's academic skill. They do not spend enough time with their child nor show sufficient interest in his school work. Further, many parents have come to distrust their own ability to gauge whether their children are receiving a proper education. Confronted by a strange educational program and unfamiliar jargon, many have come to believe that only professional educators can judge how well a child is doing in school.

Other parents subscribe to the belief, common in our wealthy society, that any problem can be solved if only enough money is spent, yet the amount spent throughout the Nation for primary and secondary schools between 1960 and 1973 went up by 199 percent. Consequently, our educational system is replete with monuments of this philosophy of "money cures all" elaborate school buildings; instructional media, for which we pay three times as much as for textbooks; and calculators for children who do not even know arithmetic. But, the education of our youth is something that requires personal dedication and a substantial investment of time, not just money.

Television has contributed greatly to the decline in the reading and writing skills of the child. Studies have shown that high school seniors have spent more of their lives in front of television than inside the classroom. Parents are derelict in allowing their children to become slaves of television. They watch television along with their children and thereby give parental approbation to the values that television transmits. Worse, some parents use television as an electronic babysitter.

The television set is definitely inferior to the book as a means of education. Watching is passive; reading is active. Television is nonstop, giving the viewer no time to think; he is rushed from one scene to the next. A book allows a person to stop, reflect, to turn back to a remembered passage—months or even years after the first reading. A book can encourage imagination and independent thought. Television, however, frequently leaves children with a false image of the real world. Television is conditioning them to think that any problem can be resolved in a half-hour; or if difficult, perhaps an hour. It tends to shorten the attention spans of children, making the hard work of learning appear even more tedious when compared with the entertainment-oriented television. It fails to develop critical and analytical thought—qualities which we have prized throughout our history. Its primary purpose appears to be to make consumers of grownups and children.

By the way, Mr. Chairman, I thought you might ask me what I would do as an immediate step to improve this education of our children.

Senator PELL. I will ask you after you have finished your testimony and then Dr. Berry finishes hers.

Admiral RICKOVER. Yes, sir.

Senator PELL. She will have equal time.

Admiral RICKOVER. Changes in society have played a part in the deterioration of the quality of education. But I believe the primary blame for the decline rests squarely on the educational establishment. Many educators would have us believe that the schools themselves have played no part in the decline of student ability. Self-deception is particularly rife in educational research.

In 1965, the Coleman report, typical of many similar studies financed by the U.S. Office of Education, came to the startling conclusion that the socioeconomic status of a child's classmates was a more profound influence on his achievement than his teacher. This conclusion was astonishing because the offspring of countless uneducated immigrants today occupy leading positions in business, the professions, public life, and the arts. Yet, influential educators, intellectuals, journalists, legislators, administrators, and judges quickly and uncritically accepted this hypothesis.

Coleman's finding became the rationale for many efforts to require more racially balanced schools, and resulted in vast expenditures of public funds, political and racial arguments, and dislocations in school systems. Later investigation showed the data to have been misinterpreted and incorrectly evaluated. After years of support for and identification with the policy of mandatory racial balance as an educational goal, Coleman, in 1975, subsequent to criticism of his thesis, changed his position. He not only dissociated himself from the legal and political decisions engendered by his report, but admitted that schools did, perhaps, make a difference in the achievement of children.

Left to their own designs, educators, in the name of innovation, have made it possible for many students to avoid courses that would provide a solid grounding in the basic academic subjects of reading, writing, and mathematics. Studies have documented declines in enrollment in basic academic courses. In some cases, courses in basic skills have been supplanted by electives or extracurricular activity. In others, the total number of instructional hours per school year has declined.

In an effort to instill more relevance in education, many schools have invested substantial resources in programs which seem directed more toward providing amusement than toward developing children's ability to sort facts and make intelligent decisions. Couched in the unintelligible jargon of systems analysis and other pseudosciences, these programs place a high priority on freedom of choice in course selection without first insuring that the choices are structured to meet academic needs.

Much experimentation has focused on ways to give the student greater opportunity for "creativity." The ends to which this policy is taken are absurd. One school superintendent forbade the use of coloring books on the grounds that they force pupils to confine their artistic efforts within fixed lines. Another superintendent of a big city school system felt that since children were allowed to be creative at home, they should be allowed to be creative at school. The resultant milling around of children in the schools led to chaos. This was a predictable result, since most children are not competent to decide what is in their own best interest or how much creative freedom they should enjoy.

This drift in educational thinking strikes at the very basis and fabric of society. Schools are fostering attitudes in students that ill prepare them for the harsh realities of the world. Take the idea that learning must be easy and preferably entertaining. This idea is cruel to the child and dangerous to society, for children grow up believing that they need not struggle to excel.

The Germans have a good word to express education—"geschunden"—used in the same sense as beating a horse. This applies to the education of young children. You can't let them along. In a way, they are still like little animals who have to be trained. Every mother knows that children need firm guidance, but the educationists don't seem to grasp this fact.

In the attempt to make learning fun, and I believe to make themselves popular, many teachers and administrators have deemphasized discipline, thought, and work habits, and stressed creativity, individuality, and "feeling," to the detriment of academic achievement. What this means in teaching English, for example, is the turning away from serious reading and closely reasoned writing. Students, especially at the high school level, are led to believe that oral and written expression need no real effort. Feelings are often placed ahead of language as the primary tool of expression. In consequence, students are cheated; they do not face the difficulties inherent in good writing, and do not develop the ability to write well. This approach may free instructors from tedious grading of papers and themes, however, it does not develop the necessary skills. After all, good writing is as difficult as dragging a heavy load of stone on a hot day under a low bridge.

One of the truths of life is that if you want to influence others, it is not enough to know a subject; you must also be able to express what you know. This is what makes the ability to write clearly a most valuable skill. But many students simply do not value writing skill in a world that is predominantly technical. Teachers who hold grammatical achievement in small esteem reinforce this notion.

The "learning is easy" movement has also affected mathematics. In the late 1950's, "new math" was hailed as a revolutionary new method of teaching a subject that generations of children had found "distasteful" or "not fun." By abolishing the systematic progression from arithmetic through algebra and geometry, new math was supposed to make it easy for children to understand and enjoy mathematics. The results were predictable. The money spent in training teachers in the new math and rewriting textbooks was largely wasted. Millions of young Americans have learned something of sets, variables, and binary operations. But many have failed to learn the arithmetic needed to balance checkbooks or figure income taxes, and most have a poor foundation from which to move to higher mathematics, physics, and engineering.

There is a passage in the Talmud that reads: "The world is upheld by children who study." Learning can be interesting, rewarding, and exciting, but it requires effort. It is work! No learning takes place, just as no ditch gets dug, without work. Mental sweat is required of the student who would acquire the skills, concepts, and information necessary to master a course. Preaching the doctrine that learning should be easy implies that society has an obligation to make life easy, and promotes an already far too prevalent attitude against work. If our goal is to entertain our children, we can do so far more cheaply than by sending them to schools. Playgrounds would suffice.

Despite growing disenchantment by many parents, teachers, and students with undisciplined learning and experimentation, these programs continue to receive strong support from educational leaders. The new head of the U.S. Office of Education recently spoke of alternative educational approaches for high school students, contending that children today "are more sophisticated." He attributed their earlier maturation to television and other factors. From my experience, many of today's students are academically immature and unsophisticated.

"Alternative educational approaches," as they are called, should not detract from a school's primary mission of educating students in the basic skills. The following teacher's note on a report card, as it appeared in the Georgia Education Digest, best expresses this point: "Alvin excels in initiative, group integration, responsiveness, and activity participation. Now, if he would only learn to read and write."

Teachers share in the blame for the condition of our schools today. If students had no teaching machines or visual aids, no buildings, counselors or administrators, they would still learn if they had competent teachers. As a group, today's graduates destined for teaching positions do not possess a solid academic background. Some educationists hold the fallacious belief that expertise in classroom management can supplant knowledge. While classroom management, discipline, and presentation are important, they are no substitute for competence in the subject being taught. In Europe, teachers are required to know the subject matter. Those teaching above the elementary level have advanced degrees in their field. But, in this country, teachers are often not required to have a mastery of a subject they teach.

What many States consider as important qualifications are the number of education courses in teaching techniques—not competence or skill in subject matter. Restrictive State laws promote this view. In today's climate, a smart prospective teacher will avoid an advanced degree because the higher salary it commands makes it more difficult to get a job.

One publisher of science materials for junior and senior high schools touted his product as follows:

"And it does not require specific subject background on the part of the Earth science teacher." In other words, the teacher does not need to know much Earth science in order to use these teaching materials. But, this problem is more widespread: foreign languages are taught in many high schools by those not fluent in them; geometry and algebra by those who know little mathematics. Most English teachers are literature majors who resent teaching writing skills or who are unqualified to teach them.

Studies have shown that, on the average prospective teachers exhibit the lowest academic ability of any major group in higher education. One study revealed the startling fact that, in terms of high school academic performance, teachers ranked above only one other group—that composed of students who dropped out of college with failing marks. This conclusion is supported by the Educational Testing Service which found that those taking the Graduate Record Examination in the field of education consistently made lower scores than those in any other field.

Low ability, combined with second-rate training, means that many students finishing teacher education programs are not competent to teach. For instance, one Florida county, in 1976, found that one-third of the applicants for teaching jobs failed an eighth grade level general knowledge test. Confronted with such evidence, the State's Board of Regents decided to require professional competency tests before a prospective teacher can graduate from a State university.

When unqualified people are admitted to the teaching ranks, their incompetency either goes unnoticed because of inadequate teacher performance measures, or, once discovered, the incompetent teacher is protected from removal by tenure. Today the laws are so restrictive in most States that superintendents and school boards seldom even try to dismiss incompetents. In a 23-year period, Cleveland, Ohio's, largest school system managed to dismiss only one tenured teacher. Over a 2-year period ending in March 1975, there were only 14 tenured teachers dismissed in the entire State of California.

A rare exception occurred in April of this year when the school board in Goochland County, Va. fired an elementary school teacher on grounds of incompetence because of her atrocious grammar. The teacher, a veteran of 12 years in the Goochland school system, was dismissed after a parent complained about the grammar in a third- and fourth-grade social studies guide the teacher had prepared for her students.

Among the questions the teacher had prepared were these, reproduced verbatim: "What did the sculpture told the archeologists?" "Why did the Maya sailed to other ports?" "How many names did each Maya had?" "The grammar was atrocious," the school superintendent said: "I would just assume a college graduate wouldn't have this sort of weakness."

With that comment, the superintendent hit upon the fundamental weakness in our approach to education in this country. We have all assumed that the $120 billion we spent in 1975 and all sums before it is resulting in well-educated children.

To attract intelligent teachers, schools need to make teaching professional. Although many teachers are incompetent and probably paid more than they deserve, teachers' pay in general is not sufficiently high to attract topflight people to the profession. Labor agreements between school districts and teachers effectively rule out remuneration based on merit. Extra stipends are payable for coaching or extracurricular activities but not for classroom performance. Ideally, there should be a merit pay system or other means of recognizing excellence in teaching. The reward of watching young minds develop is not always enough to sustain lifetime dedication to teaching.

Pay, however, does not guarantee performance.

In the Federal Government and in private industry, there are many examples of people who, although well paid, do not perform to their capacity. However, parents can encourage schools to provide conditions more conducive to professional teaching. For example, at the high school level, because the teacher himself must handle large amounts of the clerical and administrative workload, there are great pressures on teachers to simplify tests and grading, minimize assignments, and avoid written work. It is not surprising in these circumstances that true and false examinations or multiple choice tests tend to replace the written assignments so essential to the development of writing and reasoning skills. How many teachers are willing to devise comprehensive tests and assignments when they must draft, type, and reproduce them essentially on their own time? The availability of administrative and clerical support for teachers would probably enhance the quality of education and teacher morale than the investment of equivalent funds in teacher salaries.

On-the-job evaluation and training of teachers by experienced and competent supervisors is needed to rid our system of bad teaching. School teachers are among the most unsupervised workers in society. Many administrators never truly evaluate the teacher's performance on the job. The notion of academic freedom—of doubtful applicability to a high school—combined with the protection of tenure agreements, often results in each teacher determining on his own what subject matter should be taught and how it should be presented. My experience has been that in any successful endeavor, those in charge must involve themselves in the details of day-to-day operations. I remember how a president of a California State university stood up and involved himself in day-to-day operations during the student unrest in the late 1960's.

Whom do you think I am talking about, Mr. Chairman? By the way, he didn't use semantics on them, either. [Laughter.]

Senator HAYAKAWA. Oh, yes, I did. [Laughter.]

Admiral RICKOVER. The training of subordinates is one of the most important functions a person in charge must perform. In many schools, training of teachers consists only of granting them time off to attend conventions and symposia and requiring that they periodically take college courses in subjects of interest to them. Even in schools where adequate training and supervision exists, an incompetent or uninterested teacher is so difficult to fire that administrators frequently do not make the effort.

Academic programs must be better insulated from the unhealthy side effects of athletic programs and extracurricular activities. Even with the present surplus of teachers, the qualification to coach an athletic team frequently outweighs academic qualifications in filling teacher vacancies. Coaches or potential coaches, who may not be as well qualified academically as other applicants, are often selected to fill vacancies in such areas as social studies, mathematics, science, and English. In one Virginia county, for example, staff reductions are based on strict seniority with the most junior persons transferred first. Principals may exempt athletic coaches and sponsors of certain extracurricular activities from the practice, but excellence in the classroom is not a basis for exemption. If communities desire better education for their youth, academic consideration must be given precedence over athletics and extracurricular activities. Good teachers are essential to good education.

Over 2,300 years ago, Plato said:

> I maintain that every one of us should seek out the best teacher he can find, first for ourselves, and then for the youth, regardless of expense or anything.

This is good advice today.

In this country, neither the names of educational institutions, nor their curricula, their diplomas, or degrees represent a definitive and known standard of intellectual accomplishment. There are a number of standardized achievement tests that show the relative standing of students and schools against national norms, but not how much a child knows in an absolute sense. It is small consolation to learn that you know more than your contemporaries about swimming if none of you can swim.

The National Assessment of Educational Progress, a government-funded organization, is now testing how much students actually know of various subjects and at various grade levels. But these tests are conducted on a statistical sampling basis and not given to all students. Moreover, no one has attempted to define how much a child should know at certain stages of his academic career.

Historically, powerful lobbying organizations and unions—such as the National Education Association, the American Association of School Administrators, and the American Federation of Teachers—

have fought against efforts to measure the performance of teachers and school systems. They prefer the present system in which it is impossible to pinpoint responsibility.

By far, the most important deficiency of our educational system is the absence of a professional tradition of self-correction. The scientist has to provide the results of his work to colleagues. The mark of any developed profession is the practice of correcting mistakes. But the educational establishment has no means to perform this function. The Office of Education will not do the job. One hundred and ten years ago, Congress created the Department of Education and charged it with broad responsibilities, including:

> Collecting such statistics and facts as shall show the condition and progress of education in the several States and territories, diffusing such information respecting the organization and management of schools and school systems, and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of efficient school systems, and otherwise promote the cause of education throughout the country.

Yet, in more than 100 years of existence, the Department of Education—now the Office of Education—has failed to come to grips with the need for proper accountability within the educational establishment. In my opinion, the National Education Association and other professional educators wield so much influence in the Office of Education that it is unable to act objectively and in the public interest. The burden thus falls on Congress and on this committee to act.

I recommend, Mr. Chairman, that you and perhaps your counterpart in the House of Representatives appoint a panel of nationally prominent persons in representative walks of life to develop national scholastic standards.

The standards should consist of specific, minimum competancy requirements for various levels—second grade, fourth grade, sixth grade, and so on. In addition, there should be a formal system of tests to show not only the relative standing of students and schools against national norms but also whether students meet the minimum competency requirements. This would provide a yardstick to measure academic performance—a means of assessing achievement of individual students, effectiveness of teachers, and overall academic attainment of schools. Summaries of test results by school, district, and State would enable parents and educators to measure where their schools stand relative to the national standards and to other schools in the country. For the first time, parents would have a means to hold teachers and schools accountable for the quality of their work.

The States should be urged to adopt these standards and administer examinations. However, if local authorities do not provide the service, parents should be able to have their children tested against the national standards at Government expense.

Nothing in this proposal would violate the constitutional separation of powers between Federal and State governments, nor counter our tradition of local and State control of schools. I envisage the rendering of a service, not regulation in any way, shape, or manner.

The creation of national scholastic standards is the minimum step we must take. Lord Kelvin said:

> When you can measure what you are speaking about * * * you know something about it; but when you cannot measure it, * * * your knowledge is of a meager and unsatisfactory kind.

The need for national scholastic standards has been recognized by some national leaders. For example, in 1963, President Kennedy became interested in this proposal and asked for my recommendations. He sent my proposal to the Commissioner of Education for study by the University of Chicago and the Carnegie Foundation. The President kept me informed of their progress. This effort ended with his untimely death. President Nixon, in his education message of March 3, 1970, also urged national standards as a means of measuring the effectiveness of schools. Yet today we are no closer to having these standards.

The American public is becoming aware that our educational system needs correction. A poll taken in 1976 shows that, by a margin of 2 to 1, Americans are of the opinion that all students should be required to pass a standard nationwide examination to qualify for a high school diploma. A few States have made preliminary attempts to set records. However, these efforts cannot substitute for national standards.

Our States and Congress have been most generous in providing funds for the education of our children. Our per capita expenditure for education is greater than that of any other country in the world. But neither the States nor Congress has exercised adequate oversight of how the money has been spent.

The impetus must come from Congress to see that national standards are set. Congress cannot rely on the Office of Education. If Congress lives up to its responsibility and sees that standards are set, I believe the public will demand their adoption by the education community.

We would be wise to heed the words of Aristotle who said that the chief concern of the lawgiver must be the education of the young.

Thank you, Mr. Chairman.

This completes my statement.

Senator PELL. Thank you, Admiral Rickover, for the excellent and strong and provocative statement. I must say that the legislation Senator Cooper and I introduced in 1969, if my colleagues in the Congress had approved of it, would have done very much what you said. It would have provided at least the option of a standard examination for all high school graduates, not a mandatory one for getting a degree. But even that preliminary step I was unable to get through. All that we could get through was councils set up at the national and State level to improve the quality of education. These were never implemented.

So I have been down this road with you and am disappointed at my lack of success.

Admiral RICKOVER. So am I, sir.

I appreciate what you have done.

Senator PELL. I thought probably we would let Dr. Berry make her statement first. Then we could talk to both witnesses. Senator Hayakawa, unless you have a statement you would like to make at this time.

Senator HAYAKAWA. I would like to hear our next witness.

Senator PELL. All right.

Dr. Berry, would you proceed?

Dr. BERRY. All right.

Senator PELL. If I may add how delighted I am to have Dr. Berry, who is the top Federal official responsible for education, the Assistant Secretary of Education, who has been willing to come on the firing line in this very sensitive subject, I hope that people in responsible positions such as hers will continue to be on the firing line this way.

She is the former chancellor of the University of Colorado and former provost of behavioral and social sciences at the University of Maryland. I am indeed happy to welcome her here and look forward to hearing her proceed.

STATEMENT OF DR. MARY BERRY, ASSISTANT SECRETARY FOR EDUCATION, EDUCATION DIVISION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Dr. BERRY. Thank you, Senator Pell and Senator Hayakawa.

It is a pleasure to appear before this subcommittee to discuss Admiral Rickover's proposal—and you were quite correct, I am on the firing line, as it turns out.

We share Admiral Rickover's concern about the quality of education, and we are grateful for his efforts in the past and we know that now——

Senator PELL. Excuse me. Can you hear in the back of the room? [A chorus of noes.]

Senator PELL. Could you move the microphone a little closer? OK. Thank you.

Dr. BERRY. I'll start over.

You were right, indeed. I am on the firing line.

I am pleased to appear before the subcommittee to discuss Admiral Rickover's proposal. This hearing can be taken as a tribute to him and the many years in which he has contributed to the national concern for the quality of education. Increased public awareness of this central issue is in part due to his efforts.

The Department and I are as concerned about the quality of education as Admiral Rickover, and we are open to new ways of pursuing his goal of raising the intellectual level of every child in the country.

We will consider the specific proposals that he made today, as we continue discussions in the Department on the means of improving the quality of education for all children.

In the interest of time, I will not actually read my statement, but I will simply address some of the points that he made, so that we might have time, therefore, to——

Senator PELL. Then I will ask your permission and my colleagues' permission to put your statement in full in the record. I have had a chance to go over it. I think it is a fine statement, and it should be included in full.

Without objection, it will be incorporated into the record at the conclusion of your testimony.

Dr. BERRY. Thank you.

First of all, we share the goal of achieving quality in education, and in fact, I agree with most of the statement made by Admiral Rickover as he described the problems that exist in education today in the country.

But there are problems when you try to reach solutions. First I want to talk about what the problems are, and then I want to suggest some things that we might be able to do to remedy them.

Everyone in the country wants better education. The principal question is, what is better. We do not, in my opinion, have a national consensus on what exactly every child in the country ought to learn in every school system.

We might be able to do that in some areas where there is consensus—for example on the need for reading and mathematics. But there are a lot of other areas where different school systems teach different things, by virtue of choices made in the community. The high school curriculum in this country, for example, is diverse and specialized. So I do not think that in every area, even if we conceded to the validity of examinations and tests, that we would be able to reach a consensus about just exactly what it is that we should test to make education better.

Second, I don't think there is any lack of enthusiasm or initiative for educational reform in the country at this time. All wisdom, of course, does not flow from the Federal Government or the Education Division or even the Office of Education.

Educational reform is alive and well in all the States in this country, as evidenced by the great interest that is being taken in it, and as evidenced by the movement toward competency examinations that you described at the outset, Senator Pell. So, we don't need to worry, indeed, about citizens being concerned about this issue and taking steps in their local communities to work with this issue.

I do believe that while there may be no constitutional issue raised by the imposition of national standards on an optional basis, Admiral Rickover's proposal may run counter to the notion of local control and local agreement about what ought to be offered and about the tests which ought to be made and the standards that ought to be upheld in the local schools. Since the States are taking the problem seriously, I am not sure that we ought at this time, to interfere.

The other point is that I am not sure that a system of national examinations would encourage students to aspire to work harder or make better grades. I'm not sure about that. It may be true for some students. It may be true that, for example, the Office of Education's Presidential scholars program which was instituted in 1964, is an incentive for some students to work harder, so that they can be selected for this program, which is an honor for them. But I am not sure that it works for all students. Some students come from a culture that makes them not interested in diplomas, just for the sake of diplomas, or just because there are paper credentials that indicate that they have somehow met a high standard. They may need a different kind of motivation—for example, a job might be a better motivation than a certain kind of a diploma. I don't know what the answers are in this situation, but I do know that there is a difference of opinion among scholars about what, in fact, does motivate students.

The other point is that, certainly, university admissions officers and employers need to know which students are qualified. Testing may be one way to tell whether they are qualified when they go into the job market or go to the university. But qualifications do depend on a number of items and it is generally conceded or admitted by scholars who work in this area, that test scores are not the only way to measure the qualifications of an individual. Tests are under general attack by scholars and researchers as the admiral conceded in his testimony.

If we could determine what the qualifications were in all cases, I would be the first to recommend that we all insist that everyone at least attempt to meet those standards and those qualifications. NIE, the National Institute of Education, has a research program under way at the present time to develop better methods of assessing students and determining standards. We are not sure what we are testing in all cases, and I think we would have to be sure before we were to set up a national standard, which by virtue of its very existence, would lead people to believe that there was validity, great validity to it.

It is said that national examinations would tell lay people whether their schools were doing a good job or not. But there you have the problem of validity again. Even if the tests were valid, the ability of schools to influence what happens to students, depends on a number of factors. One may be the ability of the students who enter the school. A school that has very high standards and does a good job, may have some very low ability or mediocre students who enter it, and in spite of all the school does, they may end up making lower scores. This does not necessarily mean that there is a fault with the teachers. It also depends on the goal of the school—what is the particular school trying to do; different schools may have different goals.

I am not saying that it is impossible to use test scores to evaluate schools—I am just saying that these factors would have to be taken into account if one were to head in this direction.

On the point of telling lay people about the condition of education in the country, I think we do that already. We tell them, through the national assessments, run by the National Center for Education Statistics, as the admiral pointed out. The national assessment tells people about the condition of education in the country. They do this in a way that is not regarded as intrusive by people in the States, because it tells us what our young people know about certain coping skills, without certifying local schools or without assessing or evaluating whatever it is that local people ought to be doing in their schools. It is true that the national assessment uses a statistical sample. If the Appropriations Committee loved the National Center for Education statistics as much as the Authorizing Committee does, we might have more funding available and I'm sure we would be happy to test every person in the country instead of using a statistical sample. But the national assessment's sample has been scientifically drawn. We think that its results are accurate and that it does do a fine job in terms of reporting on the knowledge possessed by persons at this time.

Another measure, of course, is to compare what we do in this country—and the knowledge that is possessed by people who graduate from our schools—with what goes on in other countries in the world. The Department has funded a number of surveys in the last few years comparing the achievement of students in this country with other countries. The general conclusion that is reached from these surveys is that when groups are basically alike in age, grade, and representativeness of their respective populations, there is with few exceptions very little difference in performance between students of one developed country and another. Included in that group of countries are some where they were very selective in terms of who goes on to secondary school, for example, and other countries where they were nonselective as we are. But there were no widespread and important differences, that were found in this particular survey.

Currently, the National Institute of Education is contributing to the cost of planning a new survey in mathematics.

Now, all of this may seem to you, not to comport with the reality of the concern about declining test scores and the state of education in the country and may sound to you, like a defense of what presently exists, but it is not. It is simply pointing out that if we are to move to a proposal of this sort—and we will continue to examine it in the Department—that we have to take care that whatever standards we set are standards about which we can have agreement, and that we will know what we are testing.

Now, how do we reach that position?

I think that we should find ways, through research and evaluation and development, to determine what tests are supposed to tell us and how we should go about using them. I think, for example, that it is shocking that in the Federal Government, we spend about $10.8 billion on educational programs and only about one-half of 1 percent of that amount for research and development. Since I have been in Washington, everyone here, even people who run the programs, tell me we are not really sure whether the programs do what they are supposed to do or whether they are in fact helping education when the evidence of decline is all around us. I think that we should continue the programs, but we ought to be willing to invest more money in research and evaluation and then to disseminate the results of the research in a way that they can be helpful to the people who must run the schools.

I think we ought also to encourage the States in their efforts to find ways to test competency. We ought to give them advice, technical assistance—help them, encourage them—but we must remember that they do have a responsibility to the great diversity of students in the school population, and that they must find ways to effectively teach all individuals. It would not be enough to simply fail people on competency tests or not give them a diploma and kick them out into the streets. That would be a failure of responsibility on the educator's part; it is their responsibilities to teach those who need teaching. We ought to encourage them in that job.

We should recognize that a major problem for teachers is not knowing how to cope with those populations that they are teaching now. Some of these populations, 50 or 100 years ago, would not have been in school. Teachers need help in figuring out how to teach such groups.

I do most certainly agree that to have a student accept a diploma without an education is futile, useless, and self-defeating. We ought to do something about it.

What we can do is to develop more knowledge and information, disseminate this information and give more help to those people in the States, who are concerned about the issue.

So, we are concerned; we worry about the quality of education. I am concerned. We will evaluate the Admiral's proposal as well as others as we go along, but I did want to raise these caveats as we pursue the discussion.

Thank you very much, Mr. Chairman.

Senator **PELL**. Madam, thank you very much, indeed.

I have several questions that I want to ask and I will then turn to my colleague. Then I'll come back to more of my own questions.

First, addressing Admiral Rickover, what would be your recommendation in regard to television? How should we handle this problem?

I agree with you that it is the opiate of the masses.

Admiral **RICKOVER**. Well, I will discuss it primarily from the standpoint of the education of children, because children are the most valuable asset we have.

If I were a parent, I would take a hammer in my right hand, or if I was left-handed, I would take the hammer in my left hand, and swing at the television tube and hit it. That would be the best thing we could do for the education of American children.

Dr. **BERRY**. I would not agree with that. [Laughter.]

Admiral **RICKOVER**. I'm sure you wouldn't. [Laughter.]

Dr. **BERRY**. I happened to be present at a meeting with the "Presidential Scholars" who are the gifted and talented kids that I just talked about. We were at the White House and the President made a statement to them, which was one of the most eloquent statements I have heard, on the subject of television, when he was asked the same question that you have just asked.

His response—and I agree with his response—not because he is the President, but because of what he said—which is that television has been a great learning tool. It has brought a kind of culture and civilization—albeit popular culture, to people in places where they would never have known about the realities of some of the things that exist in the world, if there had been no television.

The problem with television is its use in promoting educational values. So I would think that we need to work on changing approaches in programing and finding ways to use television as a tool to educate people, as opposed to getting rid of it.

Senator **PELL**. Dr. Berry I agree with you that television could be used from some good program the way it is used in foreign and European countries.

But, do you think, on balance, that television, as it presently is, with its present mix of programs, commercials and recommendations to smoke or drink or whatever, may be—do you think that the American people have gained more from television as it is today or lost more?

Dr. **BERRY**. In terms of the way it is today, I would think, on balance, we have probably gained more.

That does not mean that we do not need reform—and I certainly would support funding different programing approaches to be used for an educational purpose.

But take for example—depending on what side of the issue you are on—and I know you are on the right side—the whole civil rights movement. Television brought the people a view of something that they would not have seen otherwise, and contributed greatly to the development of a great social reform movement in this country. In terms of building awareness among people, I think overall in the last 20 years, there have been gains. However, those social gains have to be balanced against most of what is on television, which is not educational and which seems to me to be valueless in terms of educating people. I would think, therefore, we would need to reform that.

Senator PELL. Of course, before the Civil War, 110 years ago, they fought about the cause of civil rights without the benefit of television and radio.

Now, I would like to return to a statistic of Admiral Rickover's when he mentioned that the quality of teachers as a group was less than that of any other group, except those who dropped out of college, will you give me a citation for that?

Admiral RICKOVER. Yes, sir.

You will find it in Koerner's book.

Senator PELL. Whose book?

Admiral RICKOVER. Dr. Koerner. I will get the exact title for you, Mr. Chairman. [The title of the book is "The Miseducation of American Teachers," by James D. Koerner.]

Senator PELL. All right.

Admiral RICKOVER. May I comment further on television?

Senator PELL. Sure.

Admiral RICKOVER. Dr. Berry was talking about the efficacy of television in a political content—about civil rights.

I understood that the question you asked me was about television as it pertains to the education of our children. I restric ed my answer to this specific area.

Television programing is determined too much by profit to serve as a useful educational tool. Although television occasionally includes something of use to the children, its overall impact is detrimental to their education.

Mr. Chairman, I am saddened by Dr. Berry's testimony. I have great respect for Dr. Berry and I'm sure she has good intentions. But to paraphrase a well-known passage in the Bible: The voice is the voice of Dr. Berry, but the words are the words of the U.S. Office of Education.

As a result, she sounds like a typical bureaucrat talking: "We know what to do—mother knows best" or, if somebody comes in with a new idea, "we will consider it."

Furthermore, I was addressing my views on education to a committee of the Senate, not to the U.S. Office of Education. Now I am told that the U.S. Office of Education will consider my proposal. I would never have the temerity or lack of wisdom to approach the Office of Education with my recommendations for improving education. I know what kind of "consideration" my ideas would receive.

[Laughter.]

Admiral RICKOVER. On a daily basis, I am engaged in serious work, on which the survival of people depends, on which the fate of the United States may depend.

Can you imagine, Mr. Chairman, that if anyone comes to me with an idea, I would not listen to them?

I welcome ideas from both inside and outside my organization. My work is being done all day long by a series of heated arguments and discussions in which each person must prove the validity of his ideas and not hide behind the authority of his office. Nature knows no rank.

Dr. BERRY. If I may respond to the admiral, Senator Pell——

Senator PELL. All right.

Dr. BERRY. I think I did point out that when I said we would consider the proposal, that we will. The Office of Education, by the grace of Senator Pell and others, is only one agency in the Education Division of HEW. And when I said we would consider it, I meant that I would consider it, the staff of my office would consider it, NIE would consider it, the Secretary would consider it; we would all consider it, and not just the Office of Education.

Second, we certainly do not think all wisdom resides in the Federal Government or that we in fact know what to do. Precisely, the point of my testimony was that I share your views about the problem, but I don't know precisely what to do. I was simply pointing out some of the problems with some of the ideas that had been proposed, and said that as we looked at this, we would try to figure out ways to resolve those problems.

Admiral RICKOVER. I do agree that all wisdom does not reside in the Office of Education. I certainly agree with that.

[Laughter.]

Senator PELL. Well, I would follow up that with a question.

Why didn't the Office of Education or HEW—and you do not bear the burdens of previous predecessors—but for all the years that you have had a portion of my legislation in effect, a portion that sets up a council on quality in education, it has never been implemented and is not yet implemented. As far as I know, there is no intention of implementing it on the part of this administration.

Dr. BERRY. I wouldn't say that there is no intention to implement it on the part of this administration.

Senator PELL. I am delighted to hear that.

Do you think—I'm serious—do you think it has a chance of being implemented?

Dr. BERRY. I will look at it and I will respond, and yes, it does have a chance if it is still law.

Senator PELL. Thank you.

Because it is law—it is part B, section 541 of the Elementary and Secondary Education Act, and it is like the whale's legs tucked in from the original bill, which called for this optional test.

I would be very interested in your response to this question.

Dr. BERRY. Yes.

I will respond.

Senator PELL. One thing that concerned me, Dr. Berry, in your statement, and that is your thought that local schools, or a school board, should have the basic decision of what they are going to know. Are there not certain common elements that every educated person should have, that is, the ability to read, to express himself grammatically in writing, and to do adding and subtracting and simple division? Couldn't these elements—these are the only elements that I am talking about—be the subject of some kind of national test?

Dr. Berry. Well——

Senator Pell. Let me finish that thought.

Do you imagine anybody having a high school diploma who does not possess these elementary or these basic elements—and I'm not talking about other things such as chemistry or foreign language, ballroom dancing or how to cook—home economics. These three would have to be, I would think, part of the arsenal—the weapons in the arsenal of any young person going forth in life today.

Dr. Berry. I would agree with you.

Perhaps I didn't make myself clear.

I think there is consensus about some matters, for example, that those three subjects you mentioned are subjects where we should have competency. I think there are other areas where there is no consensus or where there may not be a consensus. In respect to those areas, I think there ought to be local control.

On the issue of the reading and the mathematical skills, where there is some consensus—and we would all agree that people need to have these skills—the problem for me is trying to figure out exactly how to capture those competencies, what the tests ought to be and how to have everyone in every jurisdiction agree that they would like the tests in a specific form.

I point out that the reason why—or one of the reasons why in those States where such minimum competency exams have been legislated the legislation has not been fully implemented, is that they are involved in discussions about what kinds of tests to give, exactly what should be in them, and how they can be sure that these tests will tell them exactly what they want to know. In that regard, I think our role ought to be to give the States advice, encourage them, and help them. But the very confusion and the delay in implementing these exams is an expression of the concern about making sure that the tests accurately reflect what they want to be learned, what everyone agrees shou'd be learned, and finally that they are fair to all students.

Senator Pell. But wouldn't it be possible for you to design, purely, on an optional basis, so that only on application could the tests be mailed out, a test that contains these elements? Surely there should be no argument about the arithmetic portions of the test. I can't believe that there should be a difference in the requirement between Illinois to Florida to Rhode Island to California. You could add into that, I would think, grammatical sentences—the question would be "What are these sentences about?" There must be some common denominators that you could have grammatical sentences from—"I went down to the Safeway and bought two of this and two of that," and express yourself that way.

And finally, from the viewpoint of comprehension, I agree that the comprehension of a middle income youngster will be about different subjects than the youngster from the ghetto area of the city. So we should avoid questions to the middle income youngster like, "What do you do if you see rats in the living room" and the youngster in the ghetto area, "What do you do with a tulle dress" or something. There must be some way that you, with the NIE, could devise something of that sort.

Dr. **Berry**. Perhaps one could do that—what you suggested.

Senator **Pell**. Why didn't they do it?

Why don't they have it available?

Dr. **Berry**. Perhaps we will.

The way the Federal Government has operated in the past on these issues is to wait to see what each State has developed and to come up with some composite kind of view describing what the States are doing.

I don't disagree with you. I think that it should be possible.

Senator **Pell**. It should be available on an optional basis.

I think this would start a motion that there would then be one or two or three local school boards in California or Rhode Island, that would say, "Let's try this". Because they tried it on an optional basis, other schools in the same area, in the spirit of competition, will want to do the same thing. You would then be doing what the Federal Government should be doing for education, doing it on a voluntary basis, and just having it available.

And we in the Congress and those in the educational field would go around the country making speeches to local groups to try this test and see what the results of it are. I think this would, in turn, help.

But, I would defer now, to the one educator on our committee, former President Hayakawa, and would be very interested in his comments and questions.

Senator **Hayakawa**. Thank you, Mr. Chairman.

I believe, Dr. Berry, that these tests already do exist and they have existed for a long, long time. There are tests in arithmetic that you have to get through—for example, tests in addition that you have to get through before you go on to multiplication. There are tests in multiplication you have to go through in order to get to division; then tests in division you have to go through in order to go to square roots, and so on. All these tests exist—there is no question about what they mean and what the right answers are, and it seems to me, on the basis of a lot of cash spent on education, that the reason they are not used, and I would like to check this against your experience, is that teachers are determined that they shall not be used, because if they are used, then "teacher A" will be shown to be clearly inferior to "teacher B" and "teacher B" will be shown to be clearly inferior to "teacher C." And then you have a basis for a classification, and therefore, discriminatory treatment of the better teachers as opposed to the worst teachers. And teachers are a solid union in defense of their colleagues. And I have found that in every damn department I have ever worked in and I find it appalling in this respect.

As a member of the English Department at San Francisco State, I repeatedly tried to provide the department to agree on certain standards of grammatical competence that we should expect from students before they pass freshman English. I could not get to first base.

And—well, I do not need to put in my own autobiography, but I resigned, the year I got my tenure the first time, because I thought it was such a miserable system, because once you get tenure, you are involved in this system of mutual self-protection.

There really is no problem for the U.S. Office of Education or anybody else to get together and say, "Look, this is what constitutes a fifth grade education or this is what constitutes adequacy in arithmetic, so you can go on to algebra; this is how much algebra you have to know before you go on to trigonometry; this is how much trigonometry you have to know before you can go on to engineering, et cetera." And these are all clearly established objective facts. And the fact that there is not the same degree of objectivity in history or social science or English, this does not preclude any individual from demanding of any school system, those elementary requirements of being able to write a simple English sentence or to add a column of figures.

You don't have to have a U.S. Office of Education to be able to present and say the prices on a grocery list. You have gone and bought the following things—now how much is that going to total up to? And these are high school graduates who cannot add up the sum of a grocery list, and I don't know why we have this hesitation by the State boards of education, U.S. Boards of Education, city boards of education to make this requirement.

Now what is wrong with our profession, Dr. Berry?

Dr. BERRY. I am not——

Senator HAYAKAWA. We have used all types of social statements, saying that these people are deprived——

Dr. BERRY. Right.

Senator HAYAKAWA. But we never had that used on us. We were everyday kids. We didn't speak English, some of us—but that didn't excuse us one damn bit. We had to learn square roots when it came time to learn square roots, and so on.

Dr. BERRY. Well, I would encourage, as you do, parents to insist that their local school boards do, in fact, see to it that their children are taught.

Senator HAYAKAWA. Dr. Berry, parents do insist on it, and those who can afford to, find their insistence gets nowhere, so they took them out and sent them to private schools, but those who cannot afford it are stuck, with that conspiracy of mediocrity that constitutes the damn teaching profession.

Dr. BERRY. Well, Senator, you are at liberty to say that and I am not. [Laughter.]

Senator HAYAKAWA. Anyway, Mr. Chairman, the complete sluggishness, the immoveability of the educational system is something over which I really despair. We will go over and over and over it again, as it is Admiral Rickover's despair, I'm sure, and I really do not know what to do about it. We cannot abolish the tenure system, but I think that would be a first step. And what Admiral Rickover says about teacher evaluation—if we had to—if teachers were also grocers and they had to hire our own students as grocery clerks, we would certainly improve our teaching methods. As it is now, grocers have to teach arithmetic to their own clerks that they hire. And there seems to be no system by means of which peer evaluation—and when I became president of San Francisco State, I was shocked to learn that when a department sent you a list of people to be promoted from assistant professor to associate professor, the dean was supposed to say OK and then the vice president for academic affairs was supposed to say OK and the president was supposed to sign it and say OK. No one reviewed that. Well, after I became president, I sent back eight names and said I refused to sign this promotion recommendation. I refuse to recommend it clearly and I say to stop it right there. My God, all hell broke loose. [Laughter.]

All hell broke loose.

And there was a demonstration, there was chanting, there were parades and delegations to my office—they did not have tenure—none of these eight people had tenure. They did not deserve to be promoted from assistant to associate professor. If I could have promoted them, they would have had tenure. but I wanted to stop it right there. Even before they had tenure, that self-protection goes on and this is the way it is at the university and at the school system level.

When are we going to, as a teaching profession, say to our young teaching assistants or young instructors, "Look, you are not good enough, so go find a job somewhere else." We don't. We just take them in and protect them for the rest of their lives.

Don't we?

Dr. Berry. Yes.

Admiral Rickover. Mr. Chairman, may I ask a question?

Senator Pell. Please.

Admiral Rickover. First, I would like to say that, from what Senator Hayakawa said, I think he has read a book on semantics.

[Laughter.]

Admiral Rickover. Furthermore, I can now understand why the parents of the State of California elected him and I think he has a message for any aspiring politician today.

I would like to comment on one statement made by Dr. Berry, about the comparison of education in America and foreign countries.

Dr. Berry, what percentage of illiteracy do you think there is in Japan or in Norway or in Sweden?

What do you think?

Do you know what the figures are?

Dr. Berry. Very low.

Admiral Rickover. You made a positive statement that our—that education in this country was just as good as anywhere else.

Dr. Berry. But I——

Admiral Rickover. I should think in your position that you would know the rate——

Dr. Berry. But——

Admiral Rickover. What is the rate of illiteracy in this country?

Dr. Berry. That is not that I said.

Admiral Rickover. What is the rate of illiteracy in the United States? Do you know?

Dr. Berry. First of all, very low.

Admiral Rickover. Very little? I don't understand the term "very little." In engineering, I cannot use such expressions as "significant" and "very little."

Senator Pell. Let us take a very short pause here.

[A short recess.]

Senator Pell. Thank you.

I would ask that we state in the record at this point, the available statistics—the staff will collect those on illiteracy.

Are we talking about functional illiteracy or full illiteracy?

Admiral RICKOVER. May I comment, sir?

Senator PELL. Right.

Admiral RICKOVER. We have about 20 percent functional illiteracy among adults in the United States. In Japan, they have far less than 1 percent. I think the last time they were looking for one illiterate in Sweden, they could not find him. [Laughter.]

Since literacy is the entire foundation of education, I should think that someone who is the senior education official for the Federal Government should know more about it than a naval officer.

Dr. BERRY. And I would rejoin by saying, that just as you pointed out to me, to say "very little" is not mathematically precise, to say that in Sweden, they could not find one is not that precise.

[Laughter.]

Dr. BERRY. But I did want to point out, Senator Pell, that the issue of exactly how much illiteracy there is is not germane to the point I made in my testimony. The point I made is that when the student groups are basically alike in age, grade, and representativeness of their own respective national population there was very little difference in performance between the students from one developed country and another. And that is what I said.

But, I would be happy to provide more clarification and to check the figures on illiteracy and all the rest of it.

Senator PELL. I would ask that the staff pull together from the Library of Congress, the figures that are available through UNESCO, of the 20 most technologically advanced nations in that regard.

I would think that in connection with the question of what system of education—France is probably the most centralized system. There you know at 11:15 on a Tuesday morning, exactly what every youngster is studying. I am not particularly recommending that system, but certainly, France is a country which has always produced many diverse viewpoints and cultures.

I cannot help but recall the time of the Hungarian Revolution of 1956, when I was in charge of the International Rescue Committee operation. At the time, I remember that these Hungarian youngsters who came to American schools, as soon as they had learned English, in spite of having received their earlier education under the Communist system, which obvously had drawbacks, were usually about 2 years ahead of our own youngsters.

And the same thing applies, I notice, with yougsters coming out of schools in Europe now. I have a nephew who finished school in Scotland and jumped in as a sophomore, when he went to college here. I think that as a rule, at least in Western Europe, the average education seems to be a little higher than it is with us.

Do we agree on that premise?

Dr. BERRY. I can only give you, again, the results of the survey, and to say that——

Admiral RICKOVER. Mr. Chairman, I can comment on that question.

Dr. BERRY. I'm sure you can, Admiral.

[Laughter.]

Admiral Rickover. The educational level reached in Western European secondary schools is about equivalent to 2 years in a good American college.

I wrote a book on Swiss education which the Swiss Government considered to be the best book ever written by a foreigner on that country's education.

Senator Pell. Probably the only one. [Laughter.]

Admiral Rickover. It is written in English, by the way. [Laughter.]

Every year they have an examination of all their graduates before they all have compulsory military service, and they are given a long examination, lasting several hours. I sat in on that examination, although I was a foreigner. I heard the kind of questions that were asked, and I was allowed to ask questions myself.

First, they all knew two foreign languages, aside from anything else. It was marvelous to talk to those youngsters, and anyone who can sit here and say that the graduates of our high schools are equal to those of the Western European high schools, simply does not know what she is talking about.

Dr. Berry. That is not what I said.

Senator Pell. Excuse me.

I think also we ought to keep in mind, the difference in our systems. In Europe, the hoch schule—the gymnasium—only a portion of the youngsters go to those schools. There, as you point out, they come over considerably more advanced than ours, but the majority of youngsters over there do not go on. The majority of people in Switzerland as you know—that are working—do not speak more than their own Swiss-German or French. It is the educated gymnasium-hoch schule graduates who speak more than one language.

I cannot tell you the number of times I have been in Switzerland and found people there who don't know any language but German, which I do not know.

Admiral Rickover. Yes, sir.

But I think you will find that a European graduate of 8 years schooling knows much more than his counterpart in the United States.

The other false statistic which is paraded around the United States is that about 40 percent of our students go to college and only about 5 percent in Western Europe. However, European universities are really equivalent to our graduate schools, not our undergraduate colleges. I think you will find the enrollment in U.S. graduate schools and European universities to be about the same.

Senator Pell. Why Admiral Rickover, would you have the Congress establish the National Standards Committee rather than the executive branch of the Government?

I do not really think of this as a congressional function, although I realize you have been disillusioned by the Office of Education.

Admiral Rickover. When a captain of a submarine that demonstrates two or three times, that he is incompetent, we replace him. But you cannot replace the U.S. Office of Education.

As the witness told you and as I stated previously, she was talking for the Office of Education and not for herself. The Office of Education will take your money and conduct many experiments, but they are invaded by and obligated to the educational establishment, Senator Hayakawa related his personal experience dealing with the educational establishment, which, I believe, corroborated what I said in my testimony. Any fairly intelligent person can tell whether a witness is talking for himself or for his institution. The reason I get along with Congress is that I have always told them what I really thought.

Until there is a drastic reorganization of the Office of Education, with people with an entirely different viewpoint and philosophy, there is absolutely no use in depending on them. I have to deal with real things in this world. An atomic submarine either works or it does not work. It has millions of parts, and if they do not work, it can sink and its crew will perish. I am responsible for 117 operating nuclear ships in the Navy—for their technical operation, for the operation of their atomic powerplants. They all work. We have never had a single radiation casualty in the equivalent of about 1,500 years of operation. There is truth.

What can the Office of Education show for their efforts?

All they can show you is that they come out each year and ask for more money for research. And that is just exactly what you were told a short time ago—"Give us more money for research"—as if research of the kind that they foster will ever do a damn thing for this country or for the world for education. You know that as well as I do. You are just being polite. I am not because I believe in telling the truth. [Laughter.]

Senator **Pell**. If you could give us an idea, Admiral, of what the elements are in the standardized test——

Admiral **Rickover**. Yes, sir.

I am glad you asked that question.

The elements would be very simple. Testing would cover the basic subjects—reading, mathematics, and writing, and such other subjects, which a nationally recognized group, not myself, would think that an average grammar school or high school graduate should know.

I am not talking about music. I am talking about the things that an American citizen should know to be a viable person in this economy.

When you see a statistic that half of the people in this country do not know that there is an energy crisis, that should cause us to stop and ask about the quality of our school system.

Senator **Pell**. Would not a voluntary test, a test that is available at no cost to the taxpayer and school, on at least three of those things—reading, writing and arithmetic, being available to high schools on a voluntary basis be a step in the right direction?

Admiral **Rickover**. Yes, sir.

Senator **Pell**. Just as public opinion supported Senator Hayakawa in the last election, public opinion in the community would have these tests be administered. If one school district did it, others would follow, and follow and follow.

And would that not be a step in the right direction?

Admiral **Rickover**. Yes, sir.

Senator **Pell**. And along that line, should we not take some comfort from the expression of the Assistant Secretary, that she would—I thought I detected that she would give serious thought to the idea of making such a test available and having it marked by the NIE.

Dr. BERRY. Right.

I did say that.

I said two things—I said that and I also said that, when I go back to look at it, if the Council on the Quality of Education still exists in the land, we will look into setting it up. I said two things.

Senator PELL. Out of this hearing, really, I think a considerable amount of breakthroughs may be achieved.

One, if we do not anger Dr. Berry too much, we may find that a voluntary test on the three areas—and I think, fairly, Admiral Rickover, we ought to settle for that, at the beginning—that that kind of test would start being used, and that would be one real step along.

Admiral RICKOVER. That would be, sir.

This is the first admission in history by the U.S. Office of Education, that someone other than a legal member of the educational establishment can have any worthwhile idea on education. So I am very grateful for small favors.

However, I question that a test which is the entire responsibility of the U.S. Office of Education will do the job. They are too closely allied with the educational establishment and its big lobbying organizations which have officially stated their opposition to standardized testing.

Are you aware of that, Senator?

Senator PELL. Yes.

Admiral RICKOVER. They have said that testing is undemocratic and some other word.

Senator PELL. Elitest is the word.

Admiral RICKOVER. Elitest is the word—right.

Dr. BERRY. Well, I would point out to Senator Pell and to the Admiral, that the proposal is to have the NIE, the National Institute of Education, handle the test, and not the Office of Education, if that gives us any confidence.

Admiral RICKOVER. Yes, but you finance that office, do you not?

Senator PELL. It comes under the Assistant Secretary, and for that reason, her thoughts to this are worth a great deal.

A test like that would not cost too much to administer.

Could that be done out of your budget, administratively, or not?

Dr. BERRY. I do not know.

I dare not commit to that until I go back to look at it.

Senator PELL. I will do all I can as chairman of the authorizing subcommittee to be supportive.

Dr. BERRY. Yes.

Senator PELL. I can be supportive in this direction, since I have the capacity.

Senator HAYAKAWA. And I think it is very important that as this idea moves forward, that nobody get credit for it, because the only way an idea will really move is if everyone feels it is their idea.

Admiral RICKOVER. I must say that I cannot see the U.S. Office of Education ever leading a campaign to educate our children.

Senator PELL. I disagree with you.

I have been working with them for some years. I have had my disappointments, but I have never felt better than I do right now, when I see this idea which we talked about 10 years ago, which you have been working on 20 or 30 years—that we have seen a little motion here today and that is more than I have seen in 10 years.

Admiral **Rickover**. Yes, sir.

You are correct.

This is the greatest accomplishment of the U.S. Office of Education in 110 years. [Laughter.]

Senator **Hayakawa**. Mr. Chairman, as is very clear, I have been somewhat moved by the testimony given by the Admiral and by Dr. Berry, and I would like to say something to you, Mary Berry, rather than the spokesperson for the educational establishment.

You are now Assistant Secretary for Education. You are really the top of the ladder insofar as the whole educational establishment is concerned. You do not have to pay any attention to them any more. You are the boss. You are the top. You do not have to yield to the pressure of any American Federation of Teachers, Association of Schoolmasters or anybody else. You can decide whether it is quality and you can decide what is the top priority in education.

You know what education needs. You are a good citizen and a conscientious worker and you can order them about and set the directions.

And the admiral and I. I am afraid we have been giving you a hard time, but there is nothing personal in it. It is just our deep concern for education.

On top of all that, I have admired the way you have taken this rough patch with good humor and with relaxation and with confidence in yourself. That is wonderful.

And since you do have that confidence in yourself, please go and shake them around a bit, and insist upon some standards, because this country is really shaping its foundations with its children, and they are not getting the proper foundations in arithmetic or reading or writing—and you are in a position to raise all hell about it. That is your position, and I congratulate you on that position, and anytime you want help from Admiral Rickover or me, by gosh, we will help you.

Dr. **Berry**. Well, I appreciate that, because as I go kicking them around, I will need your help.

[Laughter.]

Admiral **Rickover**. You certainly will.

You will need it when you learn what a government bureaucracy is.

You will find out that many of your people will oppose you, but as Senator Hayakawa said, you are the boss. Use your own conscience, do what you think is right, and you will find out that there are many people who will help you. I'm sure that this committee will help you if you try to do the right thing, and if there are people working for you who do not want to carry out the mandate of Congress, then you ought to fire them.

Senator **Hayakawa**. That's right.

Senator **Pell**. I would suggest that you try to get through reading, writing, and arithmetic, and leave the other ones for subsequent generations. I also thank you very much for your offer of taking another look at the section in part D of the Elementary and Secondary Education Act, and perhaps implementing it, bringing to effect the Council on the Quality of Education.

Dr. **Berry**. Thank you.

Senator **Pell**. I want to thank Admiral Rickover, particularly, because I know how busy he is, and this is just one interest—an apparently strong interest, but an outside interest from his main responsibility, which is to keep our country safe and protected, and he does that very well indeed.

Is there any closing statement that either of you would care to make?

Dr. **Berry**. No.

That is fine, thank you.

Admiral **Rickover**. Mr. Chairman, I would like to make a final statement.

I realize that my colleague here has a very tough job. I don't underestimate that at all, because I know these educationists from personal experience. I very much appreciate your statesman-like work in taking a situation and making something out of it. I think you have got a fine way of getting this started. It is not important what the first set of examination questions are. The most important thing is establishing the concept that there will be somebody outside of the educational establishment that will develop these standards and tests. And I think the finest thing that may come out of this is the dissociation of the Office of Education from all the other educationists. Perhaps the office will not act independently. And I believe that is what the committee wants, what the President wants, and what the people want.

So I want to thank you very much. I think that this hearing may be a far more significant meeting than any that you have held in a long time.

Senator **Pell**. It is interesting, too, how the four of us engaged in this dialog are from different parts of the country, different backgrounds and we all have a certain commonality of viewpoint in this regard.

Senator Hayakawa, do you want to state anything else?

Senator **Hayakawa**. Nothing more.

Senator **Pell**. Thank you all.

[The prepared statement of Dr. Berry follows:]

FOR RELEASE UPON DELIVERY

STATEMENT BY

DR. MARY F. BERRY
ASSISTANT SECRETARY FOR EDUCATION
EDUCATION DIVISION
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
BEFORE THE
SUBCOMMITTEE ON EDUCATION, ARTS, AND HUMANITIES
COMMITTEE ON HUMAN RESOURCES
UNITED STATES SENATE
JULY 14, 1977
10:00 a.m.

Dr. Berry is accompanied by:

William A. Blakey, Deputy Assistant Secretary for Legislation (Education), DHEW

Mr. Chairman:

It is a pleasure to appear before this Subcommittee to discuss Admiral Rickover's proposal, which would set up a National Standards Committee and a national system of examinations for education. This hearing can be taken as a tribute to Admiral Rickover, who for many years has contributed to a national concern for the quality of education. Increased public awareness of this central issue is in part due to his efforts.

Admiral Rickover offers as a priority goal for the United States "to bring all our children to markedly higher intellectual levels," especially in the sense of being able to think more intelligently about national issues. To pursue this goal, he suggests that Congress should set up a National Standards Committee (1) to report on the state of American education and to find out if it is competitive with countries of similar levels of culture and technology, and (2) to set up national examinations which would serve as a national scholastic standard. This standard would be high relative to those currently being pursued.

We agree with Admiral Rickover's goal and we see, as he does, a great national concern for the quality of education. In fact, two existing programs in the Office of Education highlighting intellectual excellence are worthy of note. The Office of Gifted and Talented administers the Presidential Scholars Program, first established in 1964, which annually honors over 120 intellectually accomplished graduating high school seniors from all over the United States. There have been nearly 1700 Presidential Scholars since the program's inception, all chosen for demonstrated leadership, scholarship, contribution to school and community, and accomplishment in the arts, sciences and other fields of interest. In addition, the Office of Gifted and Talented in the last fiscal year funded 53 projects, with 68% of the $2.56 million budget targeted to strengthen state efforts to serve the gifted and talented and provide quality education for the gifted in kindergarten through the 12th grade. Projects range from those that seek to identify gifted and talented culturally diverse urban youth through various programs to those that search out gifted and talented pre-schoolers in rural settings. Other projects are concentrated on reaching and identifying gifted and talented of particular cultural groups, including Hispanic, American Indian, and Appalachian children. Finally, the National Training Institute on Gifted and Talented and the Policy Fellows Program provide opportunities for people involved in the training of leaders in gifted education. Clearly, this is only a beginning. Admiral Rickover underscores the need for us to build upon this beginning. and we will consider his proposals seriously as discussions proceed in the department. We will also consider other means of responding to the concern for quality.

One problem with Admiral Rickover's proposal is that it is oriented toward those of relatively high ability. The Federal government's responsibility is indeed to be concerned with the education of all children, and moreover, to give special attention to children who have difficulty learning or children who have not been given equal opportunity in the past. To be sure, a particular concern for the gifted is also appropriate, as long as measures taken in their behalf do not have a detrimental effect on other children. In the following point-by-point analysis of the Rickover proposal, we see that a system of national examinations could have such a potentially negative effect.

Point A - A large sector of the American people wants better education. Surely, American people do want a better education for their children, but the question is whether they agree on what better is. Or to be more precise, do they agree sufficiently to provide the basis for a national set of examinations? In terms of content, well-meaning and intelligent specialists and laymen alike differ on what changes should be made, particularly since students can cover only so much material during a given period of schooling. Some of the tradeoffs currently at issue include mathematical reasoning vs. computation; probability and statistics vs. other aspects of mathematics; literary classics vs. everyday uses of English; creative writing vs. business or consumer English; aural-oral approaches to foreign approaches vs. the study of foreign literatures; American history vs. the history of Europe, Asia and other parts of the Third World; more economics or sociology vs. other subjects; more emphasis on manual skills vs. the academic subjects; more visual arts, music or physical education vs. other subjects; more emphasis on issues of immediate public concern such as environmental problems and consumer affairs vs. the study of academic disciplines for their intrinsic interest.

It might be possible to put together such a variety of examinations as to serve all these different interests. However, a large number of highly specialized examinations would not provide a clearcut national standard. The layperson would still have difficulty in keeping track of the exams and in knowing how they differ. Also, such examinations might contribute to a much greater specialization in secondary school than currently exists, a specialization which many would consider premature. The student who wants a broad general education might not be able to compete with specialized students on any particular test. England's secondary education, which Admiral Rickover particularly admires and which serves as the model for the proposed examination system, has been criticized for early specialization.

Point B - People find no one in government to carry out their wishes for educational reform. In fact, educational reform is alive and, depending on one's point of view, well at all levels of government. It is particularly strong at the state level. Instead of establishing its own standards for education, the Federal government might better help the states establish standards and carry out their constitutional responsibilities in their own way. This approach is particularly appropriate since, as we suggested under Point A, above, people differ in their views on the direction that reform should take.

Point C - This proposal would introduce a needed element of choice. It would not be unconstitutional nor run counter to our tradition of local control. Admiral Rickover's proposal may not be an unconstitutional interference with states' rights, but it appears to run counter to the tradition of local control. If an examination is to be taken seriously as attesting to student competence and as able to motivate students to do better than they would have done without the test, then it is a test which schools must also take seriously. They must prepare students for such tests, and, in doing so, will have given up much of their authority to determine the objectives of education for themselves.

The ultimate effect of this proposal might well be to reduce student choice. The more an examination is used for university admissions and employment, the more it loses its voluntary character.

If one wishes to resort to the judgment of international opinion, one finds that the sector of American education which is most admired outside the United States is the postsecondary. It is notable that this is the sector which allows for most freedom of choice and which is least subject to uniformity of standards. It comprehends a great diversity of standards with different institutions having different goals and somewhat different clienteles. Great private universities, great state universities, smaller state and private colleges, world-renowned institutes of technology, church-supported universities and colleges, junior or community colleges—all coexist and meet in one way or another the varied educational needs of the nation.

Point D - National examinations would encourage lackadaisical students to aspire to higher academic achievement. Setting standards and rewarding with diplomas will get children to work with their minds. Declining enrollments in the core academic subjects, such as English, mathematics, science, and foreign languages is a problem and may figure in test-score declines. However, it is not clear that this proposal would redress the situation. If the time-honored motivators of standards and diplomas worked with all children, we would have few educational problems. They may work well with some children from financially successful families who place a high value on education, but there are indications from various industrialized countries that these motivators are not sufficient for many children and that, if we want higher achievement among such children, we must rely on researchers and innovative practitioners to find new means. Standards are particularly insufficient when the school is in some sense foreign to children as when the home language differs from that spoken in school.

Point E - University admissions officers and employers need to know what an applicant's scholastic qualifications actually are. Certifying qualifications on a diploma would save time and money. It is questionable whether the notation of *passing* or *not passing* on a single set of examinations can ever be a universally adequate indicator of academic achievement. Other sources of information need to be taken into account, for example, a history of courses taken, grades received, recommendations from teachers and anything else that an applicant wishes to present in his or her favor. Admiral Rickover's statements suggest a much heavier reliance on tests than we believe is warranted.

We already have much experience with the college entrance aptitude and achievement exams developed by the Educational Testing Service and the American College Testing Program. These tests have been developed with care and validated in terms of college performance. Yet like all tests—essay, short-answer, oral, or multiple choice, they have been the subject of much criticism. The New York Times of May 1, 1977, contained a special supplement on the controversies over testing. A group of some forty educational organizations, with the cooperation of educational reformers such as Jerrold Zacharias, are banding together in the National Consortium on Testing to search for alternatives to standardized tests. The National Institute of Education has a research program to develop better methods of assessment. We will consider the Rickover proposals as we learn more about the value of testing.

Given the present state of testing technology, the practice of setting a single passing score is particularly suspect. In fact, it is not clear how to set such scores without being arbitrary and unjustly penalizing those whose scores are only slightly below the cutoff. One might set a cutoff such that only a specified percentage of students would pass, but it would be difficult to justify such a percentage. It would be better to set a criterion in terms of knowledge or skills to be possessed, but for many tests there is at present no satisfactory way to do this.

If one simply wanted to select a group of high ability persons to fill high status schools and jobs, national examinations might fulfill this function well. However, we must recognize that such tests could result in the unfair treatment of individuals whose abilities, for varying reasons, might not be given adequate recognition by the tests.

Point F - National examinations would give laypersons the means to judge whether a school or college is doing its job. Unfortunately, tests by themselves cannot be relied upon in this way. First, few users would have sufficient knowledge of subject matter to comprehend fully the significance of a varied set of examinations. Second, a school or college may have goals which are not adequately represented in the examination. Third and most important, students may score high or low on an examination for reasons other than the effectiveness of the school. A school which attracts high ability students can have high scoring graduates even if the school's program is mediocre. Schools which work with students of lower ability may have graduates who score relatively low even when the institution has greatly increased their knowledge.

Besides setting up national examinations, the committee established by Congress would have the task of periodically reporting on the state of American education. Currently, reporting on American education is a mandate given to the National Center for Education Statistics. Through the Education Commission of the States, a consortium of state governments, the Center funds the National Assessment of Educational Progress. National Assessment has the responsibility for testing the knowledge of young people in the United States without being responsible for certifying individuals and evaluating schools. For this reason, it avoids many of the problems which we have discussed above. In addition, such a program is economical since it involves testing, not all students, but only a sample.

Admiral Rickover is particularly concerned with the standing of the United States in education relative to other countries with similar levels of culture and technology. We can begin to answer this question by observing that American schools and universities have proved themselves capable of turning out large numbers of highly qualified personnel, indeed too many in various areas for the labor market easily to absorb. In some fields a crisis of shortage in the 1950s has turned into a crisis of glut in the 1970s. Nevertheless, it may still be that the education of persons with advanced degrees is lacking in certain respects. Admiral Rickover's concern for quality cannot be refuted by reference to quantity of graduates. Still we believe that those deficiencies which exist are concentrated, not among students of high ability and motivation, but among those who have difficulty learning or adjusting to school.

To answer questions about the competence of American children in an international perspective, the U.S. Office of Education, together with foundations and other governments, funded in the 1960s and early

70s international surveys of educational achievement. These surveys were carried out by the International Association for the Evaluation of Educational Achievement (IEA), a consortium of research institutions in twenty-one Western, Communist and Third World countries. Thus far, these studies have dealt with mathematics, science, reading comprehension, literature, French and civic education. Although the Soviet Union (mentioned in particular by Admiral Rickover) did not participate, we do have results for students at different age levels in such countries as England, Scotland, Australia, Japan, Federal Republic of Germany, the Netherlands, Sweden and Hungary.

Three lessons from these surveys are particularly relevant to the Admiral Rickover proposal:

(1) It is very difficult to develop measures which are equally appropriate to different school systems. The IEA tests cannot be said to be equally appropriate to every country. The superior performance of the Japanese in science is partly explained by the fact that Japanese students were more likely to have been exposed to the tested material. In mathematics, the first subject surveyed and a subject on which the U.S. did relatively poorly, the tests have been criticized both for appropriateness to the United States and for intrinsic problems in some of the items. Nevertheless, the IEA tests remain the only tests designed specifically for cross-national analyses of data collected from national samples. Together with associated questionnaires, they provide a good deal of insight into differences between national systems of education.

(2) "When the student groups are basically alike in age, grade and representativeness of their respective national populations, there is very little difference [in performance] between the students from one country or another within the set of 'more developed' countries." This conclusion is drawn by Alex Inkeles in a National Academy of Education review of the IEA six-subject survey. A few exceptions are noted by Inkeles, including the high performance of Japan and Hungary in science and Rumania in French.

(3) Insofar as one can tell from these data, high ability students in nonselective systems of education are not disadvantaged in comparison with high ability students in countries with selective systems.

Currently, the IEA is planning a second survey in mathematics to see how mathematics performance has changed since the early 60s, to assess the consequences of curriculum reforms in mathematics, and to study the teaching of mathematics in different countries. The National Institute of Education has already contributed to the costs of planning this survey. Further participation is being considered by NIE and NSF, with a final decision on funding to be made after review of the survey design and comparison with other research priorities.

Whatever the outcome of this particular survey, it is clear that we can learn from other countries in our efforts to provide educational opportunities that are second to none. We must be open to new ways of pursuing Admiral Rickover's goal of raising the intellectual level of every child. We will consider his specific proposals as we continue discussions of means of improving the quality of education for all children.

Admiral Rickover's idea seems to focus on high ability children to the likely and unfair disadvantage of those who do less well in school. It may put more weight on testing than is warranted. Tests are not self-sufficient indicators of achievement, motivators of student performance, and measures of school quality. Moreover, even if one could depend so heavily on testing, we are not sure that national examinations would be appropriate for our Federal system. Americans want better education, but they do not all agree on what better means. Their differences in such matters may best be reconciled at the State and local levels. Admiral Rickover has said that he has always "judged people by whether or not they set themselves a standard." We should be wary of setting standards that our citizens would not set for themselves.

Senator Pell. This hearing is in recess.

[Whereupon, at 12 noon, the subcommittee was adjourned, subject to the call of the Chair.]

QUALITY OF EDUCATION, 1977

WEDNESDAY, JULY 27, 1977

U.S. SENATE,
SUBCOMMITTEE ON EDUCATION, ARTS AND HUMANITIES
OF THE COMMITTEE ON HUMAN RESOURCES,
Washington, D.C.

The subcommittee met, pursuant to notice at 10 a.m., in room H–328, U.S. Capitol, Senator Claiborne Pell (chairman of the subcommittee) presiding.

Present: Senators Pell and Hayakawa.

Senator PELL. Good morning.

The Subcommittee on Education, Arts and Humanities will come to order.

Today marks the second day of hearings by this subcommittee into the question of the quality of our Nation's students—do they learn to read, write, and compute as well as did their predecessors?

Polls show that 65 percent of the parents of such students do not believe that their children are receiving adequate instruction in basic skills. If the national dissatisfaction is so widespread, it is of concern to educators and legislators at all levels—Federal, State, and local.

The subcommittee heard testimony 2 weeks ago from Admiral Rickover, who suggested that one means of improving competency in basic skills would be the creation of a national standardized test of reading, writing, and computation, at various grade levels. Dr. Mary Berry, Assistant Secretary for Education, agreed that such tests could be useful to school districts to administer on an optional basis, so that parents and school officials could measure their students' success against agreed-upon standards of competency.

Today the subcommittee will hear from two experts in the field of testing—Dr. William Turnbull, president of the Educational Testing Service, and Dr. Roy Forbes, director of the National Assessment of Educational Progress. Both witnesses have wide experience in the development and administration of tests to determine educational competence.

I would hope that they would address their testimony to a number of issues which the subcommittee must consider:

What is the actual situation regarding test scores and their apparent decline?

What is the "state of the art" in testing today? Is it possible to have non-culture-biased tests?

Is there a Federal role in developing and encouraging the voluntary use of tests to measure competency in basic skills?

I look forward to hearing the witnesses' answers to these and any other questions that arise in the course of this hearing.

Dr. Turnbull, I believe you will lead off.

Dr. TURNBULL. Thank you.

In response to your invitation I have a prepared statement, with various attachments, on the subject of attaining and surpassing minimum standards of proficiency in the basic skills. The statement is before you, in written form. I can summarize the main points briefly, and will be glad to amplify or discuss any aspects of the topic which you may wish me to.

Senator PELL. The statement will be inserted in full in the record, together with the enclosures.

Dr. TURNBULL. Thank you.

STATEMENT OF DR. WILLIAM W. TURNBULL, PRESIDENT, EDUCATIONAL TESTING SERVICE, PRINCETON, N.J.

Dr. TURNBULL. Mr. Chairman, in my opinion this is a time when it is important to devote national attention, indeed Federal attention, to basic skills, defined as reading, writing and mathematics. The timeliness derives in part from the evidence which suggest that those skills have declined among young people in recent years. Even had they not declined as far as the average student is concerned, it is clear that too many students are sadly lacking in the tools for further learning and for full participating in American society.

People inside and outside of the educational community have been painfully aware of the deficiency, and we now see a remarkable upsurge in efforts to do something about it. In my fuller remarks I have detailed a sampling of those efforts at State and local levels, and further references are provided to the astonishing efforts at improvement across the country.

In this climate there is opportunity and, I believe, a need, for educational leadership at the national level if the disparate efforts are to be given focus and substance, and if they are to be provided the intellectual and developmental resources they need to be effective and to avoid needless duplication of effort.

Above all, we should recognize and build on the enthusiasm and the good initiative to be found around the country.

I believe it is important that State and local districts set standards expressed in real-life terms, detailing the basic competencies that students need to attain. It is important also that they test the attainments of their own students and measure the results against those standards.

For reasons I have outlined, I do not believe that a Federal testing program in the basic skills is either necessary or desirable. I do not believe that federally-imposed performance standards to be applied uniformly across the country are required; nor do I believe we need a new, federally-sponsored set of tests of the basic skills; there are many good ones already.

It has been suggested that the very difficult issues of "cultural bias," which I put in quotes, makes it inappropriate to use the same test of basic skills with students from various ethnic, economic, and social backgrounds. This, I think, is a false issue where most existing tests are concerned, and is not a valid argument either for or against a new national test. The reasons are outlined in my fuller statement.

Turning now to what a Federal role might usefully encompass in supporting a decentralized effort, I would advocate a highly visible program with Federal support, based on new legislation if necessary, to do centrally those things that it would be redundant and inefficient to do over and over again in separate State and local efforts. These things include a wide range of activities to define the elements of sound and workable programs, in particular to make explicit the skills to be measured, to show standards can be set in relation to levels of performance; to describe how results can be reported to teachers, to students, to parents, school boards, and the public; and to provide the basis for comparing results between and among programs, especially those that use different tests.

The Federal role should be, further:

To provide a clearinghouse of information for States and districts, with regard to programs under way or proposed.

To assess the Nation's progress in the basic skills over time.

And to encourage the improvement of instruction or the development of new approaches to instruction which will address whatever skill deficiencies are found. We need not only to define standards of performance, but also to discover and promulgate the means to help teachers help students to achieve those standards.

Finally, I have been explicit about a warning that we probably will have to keep repeating, that is, that acquisition of basic skills, especially minimum competencies, is a necessary preparation for education, but it is far from a sufficient goal in either breadth or depth. A Federal initiative that keeps that fact before educators and the public would, I believe, serve the country well by rallying the best efforts of our disparate system. There are not many times when people seem so ready to move in pursuant of a shared educational purpose.

That concludes my brief summary.

Senator PELL. Thank you very much.

Dr. Forbes, do you wish to make your presentation now? Then we can have a dialogue.

Dr. FORBES. Thank you.

I also have a very short statement, and I have provided the staff with a packet of information which I would like the opportunity to discuss at some point.

Senator PELL. That portion which is suitable for inclusion in the record will be included, without objection.

STATEMENT OF DR. ROY H. FORBES, DIRECTOR, NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Dr. FORBES. My name is Roy H. Forbes. I am the director of the National Assessment of Educational Progress, a project of the National Center for Education Statistics, under contract to the Education Commission of the States.

The National Assessment of Educational Progress was designed to determine what skills, knowledge, and attitudes are possessed by young Americans aged 9, 13, 16, and 26–35. More specifically, the project reports the educational attainments of young Americans, and monitors changes in those attainments—growth or decline—over time. Each year national assessment assesses one or more of the following learning areas: reading, writing, mathematics, science, citizenship-social studies, career and occupational development, literature, art and music.

Within each age group the data are presented by sex, region of the country—the Northeast, Southeast, Central, and Western States—racial data, that is, black and white, level of education of the parents, and by the size and type of communities in which the students live. Just recently, using special analytic techniques, we were able to report the achievement level of Hispanic students in the country. As far as we know, this is one of the very few sources of national data on Hispanic students.

Baseline data have been collected in all 10 of the learning areas in the 8 years since the project's inception.

From the second assessment of science we were able to determine that our American students, ages 9-13-17-year-olds, had decreased approximately 2 percentage points in their ability to respond correctly to science items.

From the second writing assessment we found that the 13- and 17-year-olds, although maintaining ability in the mechanics of writing, have declined in ability to write coherent paragraphs, or essays. They have a tendency to write as they speak.

And from a special study of functional literacy we conducted for the "Right to Read Effort," we determined we had a 2-percentage-point increase in the ability of the 17-year-olds in school to respond correctly to the most basic type of reading test. I should add, these tests are rather simple, including items to determine the respondent's ability to follow directions, read signs, and so forth.

For our total reading assessment for 13- and 17-year-olds we found essentially there had been no over-all change. For the 9-year-old group there had been a significant increase in reading ability.

National Assessment receives many requests for the results of each assessment from people in local groups and States who wish to use our materials.

The results of each assessment are shared with the States and local agencies, with interested Federal agencies, commissions, and with the general public.

The reults from an assessment often spur additional interest. For example, people at the University of Indiana are interested in following up some of our information in the reading assessment by doing additional analyses.

As part of our reporting policy, we release a portion of the items we use in conducting the assessment. We find it helps people to understand better the type of item asked of the student, and at the same time makes those items and the method we use in an assessment available to States and local agencies so they can use them in their evaluation or assessment. For example, the States of Maine, Rhode Island, Connecticut, Massachusetts, Florida, Minnesota, Louisiana, and Hawaii have all used portions of the released mathematics items as part of their State assessments. Now they are able to make comparisons between the way the students in those States perform with the way in which the national sample and the sample in our four reporting regions perform. The State of New Hampshire in a recent assessment, used some of our citizenship items from the National Assessment.

Because of the very large interest in writing today, the Bloomington, Minn.; Cheyenne Mountain, Colorado Springs, Colo.; Lincoln, Nebr., Air Force Academy, Colo., and Dover, N.H., school districts have used portions of the released writing materials to conduct their own local assessments of writing. After completing local assessments, they used the findings to plan and develop curricular improvements.

Another example of the way in which the materials have been used for curricular improvement was a series of articles in the "Arithmetic Teacher." Each article took items from the first mathematics assessment, examined how students responded incorrectly, and suggested techniques teachers could use to correct the students' computational and problem-solving deficiencies.

These are a few of the ways in which the data has been used by local and State agencies.

The requests by State and local agencies for information, materials, and services from National Assessment continue to increase. We receive approximately 1,000 requests, per month, for assistance. These increases are due, I believe, for the most part, to the desire for materials with adequate reporting data that can be used for comparative purposes, on an optional basis, by local and State agencies. Indeed, many local agencies use National Assessment materials because of their comparative power.

Thus, the National Assessment of Educational Progress is attempting to meet these data needs of Federal, State, and local agencies.

Thank you, Mr. Chairman.

Senator PELL. I thank both Dr. Turnbull and Dr. Forbes for the fullness of their testimony in their written statement, and for their testimony in person.

We are particularly interested in the abstract of the results of these tests that have been administered.

I notice, glancing at them—and I will read them later in greater depth—you say the gap between teenage southeastern blacks and whites narrowed. Does that mean the black scores were up or the white scores went down?

Dr. FORBES. The best of all worlds: The white scores went up during that period of time, but the black scores were going up faster, so the gap was narrowed.

We have still a long way to go, I hasten to add. But I think we have reason for optimism. If I remember correctly, the percentage point increase for whites in the Southeast was around 1.2 percentage points, and the black 9-year-old in the Southeast about 7.7 percentage points. So we have both increases.

Senator PELL. I have been interested in the subject for at least 10 years or so, as you may know. I introduced legislation some years ago, with Senator Cooper, calling for quality education, with optional tests like the Regents Tests, across the country, and Councils for Quality in Education. We lost the optional test; the council portion remained in the legislation but was never implemented by the executive branch.

Now as we look ahead maybe there will be less opposition.

My own thought, and I would like the reaction of each of you, is, shouldn't there perhaps be an optional test for minimum standards, not getting into anything complicated. Is there not some bias-proof test that would just handle reading, writing, and arithmetic, that is, whether you read with comprehension, whether you can write grammatically and correctly a paragraph, and whether you can do addition and subtraction—that type of arithmetic which would more or less be presumed to be under the belt of anybody who had a high school diploma?

As we all know, many of the people receiving high school diplomas now cannot meet these minimal criteria.

What is your reaction to that thought?

Dr. TURNBULL. From a technical standpoint what you suggest is feasible. I see no difficulty in constructing such a test at different levels of difficulty for earlier and later grades.

Senator PELL. My thought would be one simple test, one that would be without cultural bias and would be really a minimum.

Dr. TURNBULL. That can be done in one sense; that is, a test of minimum skills can indeed be developed; such tests have been developed in the past.

The issue of cultural bias in tests is, I think, one that would be neither more nor less difficult in the case of a nationally sponsored examination than in the case of the ones commonly used now.

It is very difficult to discuss this issue very usefully without defining what "bias" consists of, because different people include different elements under that term. For example, suppose you have a student from a home in which English is not spoken. On a test of basic skill in reading English, clearly that student is not likely to do as well at a particular grade level as will a student at the same grade level who has grown up in an English-speaking home.

Senator PELL. But that young person is going to have to make his way in his working life in an English-speaking society and nation. In order to get a high school diploma should he not be able to meet the requirements, whether his basic language is Thai or what have you?

Dr. TURNBULL. I believe he should. Whether or not the test is biased under those circumstances is a question that could be answered differently by different people.

My feeling would be that such a test is a yardstick of the student's ability to cope with reading in English. It purports to be no more, certainly not a test of the person's inate capacity to read. He or she might be fluent in another language, or perhaps not.

Another question sometimes regarded as a legitimate definition of "bias" is whether the person has had an opportunity for the schooling that would be available to most of the majority-culture students. Effective schooling is not equally available to all students across the country.

If the test is seen as a yardstick of the person's developed proficiency, then I would not see any implication of bias in the test, whether a national test or a test made under other auspices. However, some people would, and I believe we have to be aware of that view if we are to sort out the various claims and counterclaims as to whether bias exists or not. It is a very slippery term.

Senator PELL. Do you think availability—not mandatory requirement but availability—of such a test is a good idea or a poor idea? Would you be for it or against it?

Dr. TURNBULL. I would be against it at the present time, on the ground not that it would be a bad thing, but that it is unnecessary. I believe there are a substantial number of adequate examinations already in substantial use in many places that have had long experience with those particular measures, with what the results of them mean, and that have built up a great deal of information about their own State or local programs.

You did ask the question of whether a voluntary test would create a problem.

Senator PELL. Yes.

Dr. TURNBULL. I think probably the answer is no, if it could be held at that level. It would be one more test.

Senator PELL. My own proposal is completely for a voluntary test. If it were available I think you would find more and more schools would tend to use it. School X would use it, then school Y and school Z would want to prove they are as good as school X. It has much to do with the idea of the carrot and the stick. It would spread eventually.

I think if it were mandatory it would be undue influence of the Federal Government. My proposal is for a voluntary test.

Would you be basically for such a thought, or against it?

Excuse me for pinning you down this way, but it helps us.

Dr. TURNBULL. I'd like to break my answer into two parts, if I may:

I think the addition of well-made tests available to schools is an idea to which I would take no exception whatsoever. The schools ought to know, as fully as they know the content of present tests, the content of the nationally normed tests sponsored by the U.S. Office of Education. It might more directly meet the need of some State and local school districts than any examination now available. That would be all to the good.

My concern about existence of a federally sponsored test goes rather to potential developments that could surround its availability and use. If its use were to take on not only Federal approval and recommendation—if we found it so strongly urged upon the schools that they felt they ought to adopt it whether or not its content provided a better fit to their curriculum content than other tests available—I believe at that point it would be a disservice.

Senator PELL. The test I am talking about would not be one in social studies or history, that sort of thing. It would be just in the very basic tools, the elements, the Three R's—"Reading, 'riting and 'rithmetic"—and nothing complicated like trigonometry, calculus, algebra; simple arithmetic, which so many high school and college graduates are deficient in now. The same as to writing a grammatical letter. And of course comprehension.

Would you support that? That is all I am talking about.

If you asked a question about agriculture of student at school in Harlem, that would be a little difficult. But by the same token, if you asked a youngster in Kansas what you do in the case of a blackout, that might be more difficult than the answer asked of the youngster in New York.

So I am talking, really, about these elementary points.

Dr. TURNBULL. I understand. I think that does weigh on the side of the utility of such a core test. I think even in the basic skills, as reading, writing, and mathematics, you will find differences from place to place as to what people believe should receive emphasis in teaching those skills. That would be my only concern, sir.

Senator PELL. Why would there by any difference in say arithmetic, between that taught in the ghetto school in New York and in a farm community in Kansas, as far as adding, subtracting, or division?

Dr. TURNBULL. I think as long as one conceives of the test content as completely abstract rather than problems posed in various terminology——

Senator PELL. Oh, absolutely. Absolutely. We are not referring to asking a youngster in New York how many rows of wheat can you plow in a day, or something like that, but in abstract terms. The same thing presumably, if you make it abstract, as I think you could ask in reading comprehension.

Dr. TURNBULL. Certainly this can be done. Most tests do have the problem to be solved embedded in enough context to give the student a fuller concept of the nature of the task, of the issue involved in the question.

However, I am not so concerned about the specific language as I am about the definition of the elements that go into basic writing competence, for example, or reading competency. Mathematics is a little easier.

Senator PELL. Let me be specific: "Will you please write a paragraph about any subject you wish, at least 100 words long?" Surely that should be able to be done by a youngster anywhere. One could determine whether it was grammatical after it was written, whether it is about plowing rows or riding the subway.

Dr. TURNBULL. I would strongly endorse that type of thing as part of any program, if adopted, and in that case the difference would come not in the question but in the standard applied in reading and grading.

Senator PELL. Purely grammatical, nothing to do with sociological or ideological content. I am just talking about grammar.

Senator HAYAKAWA. Let me refine the question, and put it another way.

I am sorry to be late, but I lost my way.

Senator PELL. I apologize to everybody in the room. Some came in late. This is not that this is not an open session or that we tried to keep it secret; this was the only room available. It was nice of the House, which is not always nice to the Senate, to let us have this room. Otherwise we would be outside on the west front.

Senator HAYAKAWA. Leaving the question of grammar and its correctness, when I taught in engineering school (freshman students, many students take engineering because they did badly in English in high school, and are not enthusiastic, I would give them assignments of the following kind, that is, assignments in which the student is asked to give instructions on something that the other students in the class do not know about, whether it is making an omelet or changing spark plugs on a four-cylinder Ford, whatever. And spelling, grammar, did not matter, except if somebody else cannot carry out the instructions then it is marked as an "F." If the person can carry out the instructions, no matter how you spelled, it is an "A."

It was very interesting. Since then I have thought many times of the functionalism of reading and writing, speaking in survival terms, which is fashionable nowadays. You buy an electrical appliance, or a television, or whatever you buy, and so many things come disassembled for convenience in packaging, as soon as you get them home from Sears you have to read a whole set of instructions on how to assemble it.

Senator PELL. I never do it. I get my wife to do it.

Senator HAYAKAWA. You don't pass the reading test, either.

But there are tests of this kind which are functional, a matter of survival. If people cannot read them their background doesn't matter; to survive in this culture you have to be able to do this. These tests are not culture-free, they are not free of bias, because if you read only Chinese the machinery from Sears, Roebuck remains incomprehensible to you. But I don't see where there cannot be a uniform, nationwide test for just that skill, and required no matter what your language background.

You speak of coming from non-English-speaking homes. That is I, too. And we had to learn to survive in an English-speaking culture. My high school classmates in Winnipeg were Polish immigrant children, Hungarian Jewish, Russian Jewish, spoke Yiddish at home. We all had to learn to survive in English. Many had urban backgrounds, many textbooks in Manitoba were written on the assumption of an agricultural background.

When you say there are differences from place to place in the requirements of accomplishment in English or arithmetic, tell me about the difference between, say, North Dakota and Maryland in this respect.

Dr. TURNBULL. Mr. Chairman, there is no one with whom I would less enjoy trying conclusions on the matter of writing than Senator Hayakawa.

But let me respond briefly. I don't believe geography is the principal issue.

Senator HAYAKAWA. Suppose it is a social class. Does it matter what social class you were brought up in when you have the job following a recipe in a cookbook, or trying to give someone else instructions?

One of the communications problems I used to give students in engineering school is suppose you are trying to communicate by telephone to someone in a trapped submarine below as to what levers to push, what to do to get out. How would you do it? And if the person in the trapped submarine gets out alive you get an "A." If they perish, no matter what your grammar, so forth, you get an "F."

Senator PELL. Admiral Rickover's analogy.

Senator HAYAKAWA. I think the whole objection to cultural bias in tests is a result of reading more into the tests than was ever intended. But if people read more than is intended, then what needs changing? The tests, or the people who do that reading-in? I mean, if you take someone's temperature with a thermometer it says nothing about his character, skin color, religion, his propensity to theft, or his honesty. It just gives his temperature; that is all.

And these tests do not do more. If we can regard them as culturally neutral, a test that says, in effect, the testee did not understand English, or the testee has not mastered sixth grade arithmetic, are these not the same for all social classes, the same for all regions of the United States?

Dr. FORBES. May I dive in?

Senator HAYAKAWA. Please.

Dr. FORBES. We try to be very careful, through our review and reporting processes, of cultural bias and the possibility of someone reading into the test things that are not there. I think we have done a good job of minimizing racial and economic bias interest items.

Senator PELL. Do you have any of these tests in your submission for the record here?

Dr. FORBES. No. I can submit them.

Senator PELL. If they are not too long I would like them inserted in the record.

Senator HAYAKAWA. Yes.

Dr. FORBES. Certainly.

I recall a review session with school people who questioned our use of the words "vacuum cleaner" in an example. They said "Where we are everybody calls it a "carpet sweeper." That is an easy fix, and we try to use a term we think everybody uses, such as "refrigerator," to get the same type of knowledge we are after.

I think another responsibility we have in testing is to let people know the steps we take in trying to be sure bias does not exist in the test.

Further, we must make sure that as we report to the general public we have all these limitations and caveats included, so they know this is what we were trying to do and that we were not trying to use the test to do two or three other things. I think review and reporting processes require continuous work. I do not think we will ever completely solve the problem of cultural bias, however, for the reasons you have stated.

Senator HAYAKAWA. I don't think we should. Every test in English is biased against Japanese or French. But what is wrong with that? Every test in mathematics that I cannot pass—and most of them I cannot—is biased against nonmathematicians like me.

But is not the purpose of the test to weed them out?

Dr. TURNBULL. Exactly. I agree completely with the approach you just defined to that issue. I believe cultural bias is a false issue, as I have said in my introductory statement. It is one that would be neither helped nor hindered by a national test, because there are the same issues vis-a-vis a national test as are present in the existing ones.

I have in mind the freely written expression of a student. If you ask a student to write a brief expository passage explaining something you do indeed have a question of the mechanics of his writing, spelling errors, capitalization, punctuation, so on. You have also questions about how effectively he has expressed those ideas: Do the subjects and verbs agree? There is also a problem of whether he has written to the point or has essentially written on an irrelevant subject which is not necessarily a function of his ability to manage grammar, but it speaks on the question of instructions for assembling what comes unassembled from the Sears, Roebuck catalog. There is the question of whether he or she strings together unrelated sentences or is really saying something. These questions go a little beyond the basics of a grammatical set of words in sequence.

Different people put their emphasis on different components of such production. The result is that if the same production by a student is read by a number of different teachers, the quality rating assigned to that production is likely to be very different from one teacher to another. Largely that is because teachers look at different strengths, put stress and value on different things.

Senator PELL. Were you through, Senator Hayakawa?

Senator HAYAKAWA. No; I am not.

Senator PELL. May I add. I am delighted that the only professional educator in the Senate is with us on this committee, and can give a great deal to it. I am just delighted that you are here, Senator.

Senator HAYAKAWA. This kind of essay assignment in which people are asked to write 100 words on anything they please seems to me to be, well, not a very legitimate test of anything very much.

Senator PELL. Why wouldn't it be a test of grammar? That is all I am talking about, not context.

Senator HAYAKAWA. I never believed much in grammar, myself, because, in all seriousness, the important thing is the semantic content. If I say to you "I am broke," "I am busted," "I am flat," "I am financially embarrassed," "My assets are not in liquid condition," it doesn't matter, you are not going to get paid anyway.

I always felt the actual value of the communication was important. If I write instructions to you on where you find the eggs and how to fry them, in the morning you come downstairs and find it on the kitchen table and fry your eggs, who never fried them before, then satisfactory communication has occurred, and it doesn't matter if my spelling and paragraphing divisions are wrong, so forth.

I think of communication in functional terms, and I think that kind of test can be devised. I think some do exist as prerequisite for entering, for example, engineering school. And I would say grammar tests are culturally biased, because there is no semantic difference between "I have no money" and "I ain't got no money." They refer to the same objective situation. So I would not worry about that.

But I do worry about the ability of a person to describe an existing state of affairs. Whether you talk about tomatoes or carburetors, whatever, if you can describe the situation so someone understands it and follow directions and do the appropriate thing about it, that is functional communication.

Dr. FORBES. We are at the present time planning an assessment in writing to occur in 1978-79. My guess is that we will include an item which asks a student to write instructions for people to follow. It is an excellent idea, I think.

In my handout there is an item, in a blue folder, which was replicated by a school system in Minnesota. The item shows a picture of kangaroo jumping over a fence. The students are asked to look at the picture for a while, and to write a short paragraph or short story about what they thought was happening in the picture.

Another example of a writing exercise, that got us in a little trouble with some organizations, was one in which we said, "Some people believe a woman's place is in the home. Some people disagree with that." You can see why we had some trouble. We asked the students to take one side or the other and present their response with support for their side of the argument. We were testing the ability of students to write persuasively on their points of view, saying, "This is what I believe, and this is why I believe it."

We already have in the military and in civil service and all sorts of places, standard tests by which we evaluate people. I don't see why there is an objection to our developing a federal standard by means of which a parent can pick up the Federal standard and learn of it and find out if a fourth grade child has actually learned fourth-grade arithmetic, no matter in what part of the country. If the parent finds his child is still at second-grade level he can raise hell with the school system and ask what is wrong:

"The national standard for fourth grade accomplishment is this. Here is my child at the second grade level. Why?"

We have then a basis for complaint against that school system.

Right now we get a lot of jive about different cultural standards, development of personality, creativity, all sorts of things, but they do not pay attention to the necessity of learning how to add figures, and holding them to it.

Senator HAYAKAWA. Well, I would say that problems of that kind of persuasive writing, argumentative writing, can really be deferred while we work out, say, basic arithmetic, because that is something on which objective standards exist, and the ability of a student to, say, as I said in the previous hearing, know enough division to go on to multiplication, know enough to go on to algebra; these are known facts to any mathematics teacher. People can be, and are, tested on them, and we need not worry about cultural bias, because the same multiplication table holds good in Bayonne, N.J., or in California, for all classes.

I don't know why there is any objection whatsoever to formulation of Federal standards which are offered as voluntary matters that people may comply with or ignore, as they wish. I see no objection to this kind of study being set up in arithmetic.

Certainly, obviously you do it for Army and Navy enlistment, and grade people according to that, and put some people in some kinds of occupations and trade programs, others you put in entirely different kinds of training programs, because of their educational level, their background, which fits them for another kind of duty, different from others.

There is enormous consideration involved in not holding them to it, because we refuse to hold ghetto kids to these standards, and we say poor kids have a background of 300 years of slavery, whatever. It doesn't matter, they still have to function in this world and have to know arithmetic and algebra, so on, just as a clerk in a grocery store. Nevertheless we do send them out into the world unable to do these things, and give them high school diplomas when they are still not able to do arithmetic. We do it now to them. It is a dirty shame. We as a profession consciously do it to them. As a profession, we are resisting formulation of standards that we need before we do anything else.

I read your presentation before coming, and I still do not understand why research is necessary to formulate different standards for 50 different States when there are so many things on which the 50 States, and all other civilized nations, for that matter, agree.

In San Francisco every year we have an arithmetic grading test. These Chinese kids from Hong Kong and Thailand who cannot speak English, beat everybody else in the test. So the whites and Japanese and Jews and everybody else are appalled at the way the Chinese get ahead of them when many of these kids don't even speak English. Our Chinese immigrant kids are pretty well prepared in some respects, even if they cannot speak English.

Now, is it cultural bias against all the rest of the population, that favors the Chinese? Not at all. It is just that we are not doing the job in this country that they are doing in Hong Kong and Thailand, in arithmetic.

Dr. TURNBULL. I would like to respond, Mr. Chairman, by saying I think that is an admirable statement of the issue on cultural bias, and a conclusion with which I fully agree. If my statement conveyed a different impression I was not being clear in my own writing.

I did revise the summary statement which you may have seen, Dr. Hayakawa, to read:

> For reasons I have outlined, I do not believe that a federal testing program in the basic skills is either necessary or desirable. I do not believe that federally-imposed performance standards to be applied uniformly across the country are required. Nor do I believe we need a new, federally-sponsored set of tests of the basic skills. There are many good ones already.
>
> It has been suggested that the thorny issue of "cultural bias" makes it inappropriate to use the same test of basic skills with students from various economic, social and ethnic backgrounds. This is, I think, a false issue where most existing tests are concerned and is not a valid argument either for or against a new national test.

for exactly the reasons you outlined, sir.

Senator HAYAKAWA. What is all this about "bias of opportunity," so on?

Dr. TURNBULL. If I may respond, it is my understanding from conversations prior to the hearing that the cultural-bias issue had been raised as one having a material bearing on whether or not a program in the basic skills, particularly a national test in the basic skills, would be advisable.

My reason for addressing the topic was that it has been made an issue. My conclusion on it is that it is a false issue and that those "biases," those factors that are addressed, are irrelevant to whether or not a person is able to function adequately in reading, writing, and arithmetic.

Senator HAYAKAWA. I want to ask you about page 14 of your fuller statement.

The provision of "an affirmative declaration by the Congress and the administration," so forth, that is fine.

But "the provision of funds for Federal help through the appropriate agencies within HEW and through additional appropriations to be distributed on a State basis," what are those appropriations going to be used for?

Dr. TURNBULL. In general, it should concentrate on those things that should, for efficiency, be done centrally as a service to all States rather than invented anew by each. Specifics might include: Developing models of successful ways in which people have already approached tasks such as defining the basic skill areas of concern and the elements within the broad areas; deciding on the educational levels at which to test, including adult.

Senator HAYAKAWA. Do you know about the University of Islam, in Chicago? It is not a university, at all. It is basically an elementary and high school, conducted by the group that used to be known as the Black Muslims; I think they have changed their name. Spending about a quarter of the money spent by the Chicago public schools, they do better on the average than the average for the whole public school system of Chicago, because the Black Muslims are motivated by an ideology and a strong desire to excel and a strong desire to master the skills and learnings necessary to succeed in our kind of culture. The record of that Black Muslim school system is really an appalling commentary on the rest of the school systems, all run by Ph. D.'s like me, educational experts, so on.

Why is it that with one-quarter of the funding of the regular school system they get such spectacular results?

Dr. TURNBULL. I feel strongly that that and other spectacular illustrations of success should be sought out and described and made fully public in other places, so the results could be emulated. That would be one thing I think the Federal Government could very usefully do in this field, to be sure good efforts are recognized and widely disseminated.

I believe improving teaching, learning, and following models of this kind if they apply elsewhere, as they probably would, is a highly important Federal responsibility, because the Federal Government has a purview that includes what is done in many communities around the country.

The other question, however, is how does one in a community set standards as to what basic proficiency levels should be. That has been well worked out in a number of areas, such as reading, trying to relate reading skills the student acquires in school to the real-life problems people have in attempting to get along in society. Those skills include, for example, reading a loan agreement, reading a dictionary, reading a tax form—which may be beyond any of us—reading medicine labels, directions, so on.

There has been a fairly extensive attempt made to determine what those competencies are across levels of, say, adult functioning. I don't think it is known to most State and local school districts that the results of those studies, funded under Federal auspices, are available and can be translated into standards that can be applied to teaching and learning going on in school districts around the country.

That is a role I believe the Federal Government could usefully fulfill: to make useful the research and development that has gone on to date.

Senator HAYAKAWA. Let me say, Mr. Chairman, in my own educational experience I find, and have always found, that educational research has rarely meant a change of practices in the classroom, except to divert attention away from the central job of teaching arithmetic, or grammar, or whatever is to be taught.

I myself went through the public schools and high schools and universities in Canada. One thing I remember vividly about the Canadian system is that there was an eighth-grade test covering all subjects taught in the eighth grade, that one had to pass to get into high school. But that eighth-grade test was uniform for the entire Province of Manitoba, and if graduates of your elementary school did badly in this the whole teaching staff of that school was on the griddle: "What is the matter?" And you could not complain that this was a rural school and you cannot be compared with high-class schools in Winnipeg. There was no arguing back if you did not measure up to the rest of the Province in these areas of knowledge of arithmetic, knowledge of grammar, knowledge of Canadian history or civics, or whatever it was.

Now, this is a counsel of despair, in a way, because it runs counter to so much American education, but having watched this system of voluntariness in education for so long, and seeing the declining standards over the years, I am really quite unhappy about the way things go. Whenever you present a problem they tell you "We need research."

I was part of the research project on what should be undertaken in English instruction in the high schools in the State of California. We had lots of meetings, traveled at State expense, had a very good time, and ultimately issued a report. I have never heard any evidence that that report was ever read or acted upon.

So much of educational research takes exactly this form. It is something to keep teachers busy, it is an excuse for time off from one's teaching, then you write this unreadable report that no one reads. When you finish that you ask for another grant for another research project, and you will be going another 2 years.

Whereas, if you were to say, if the State won't do it, if at the Federal level we say this is the kind of test in arithmetic that everybody in this whole darned country ought to be able to pass in order to qualify as a gradeschool graduate, or highschool graduate, or fifth-grade graduate, this puts the pressure on to say, "Look, shape up, this is where we do."

If we want to establish universal literacy—and we do not have the universal literacy Norway or Japan or France, for instance, has, we don't come anywhere near it. I would like to see us developing toward a national standard. If we cannot do it at the State level, make the teachers shape up and stop doing research projects on that which is already known, do it at the State level.

Dr. TURNBULL. May I respond?

Senator PELL. Please.

Dr. TURNBULL. I am not about to take up cudgels for the utility of all educational research. I think, however, the example of research I gave is research that has been done but not translated into practical-action alternatives for the State's to use.

My concern is exactly as you put it, that it was gathering dust on the shelf, not being used. It is research directly applicable to the problem before the States. I would like to see it taken one step further, to the stage at which it would be useful.

If I believe the States would not do the job and had no interest in it I might well make the same argument for a Federal set of standards-and-measurements system. The evidence we have gathered over *the past year* is that almost every State in the Union has a problem actively under development. I am concerned that those programs may not be as well done as they should be done and can be done. Not basic research, but rather development activities at the national level can be put at their service so they can do well what they will be doing anyway.

Senator **Pell**. Thank you.

Senator **Hayakawa**. Thank you.

Senator **Pell**. For those who are here, the reason we do not have full attendance at this subcommittee is that other members have very busy schedules. I am presently scheduled to be attending six other committee or subcommittee meetings this morning; we are all spread very thin indeed.

I may have to recess this meeting for 5 or 10 minutes, because there is another one that I have to be at for a few minutes.

Does Dr. Forbes have a response he could make to some of the questions posed by my colleague?

Dr. **Forbes**. I certainly agree with your conclusion about a lot of educational research sitting on the shelf and never being used.

I have been most encouraged, in the last couple years since I have been involved in National Assessment, by how States use National Assessment. For example, the State of Maine replicated part of the National Assessment, and Maine was able to identify an area of concern with their French-speaking students. After this need was identified, action was taken to implement a program to correct some of those deficiencies.

The blue handout I mentioned, from Bloomington, Minn., contains an example of a local school system, parents and educators working together, able to create standards at the local level of what they should expect their students to be able to do in writing. This school system was able to replicate part of the National Assessment's writing assessment and compare local results against national and regional results and against its standard. This school system identified shortcomings and, as a conclusion, will address those shortcomings.

So there are a lot of individual examples of the way in which assessment data may be used, and has been used, to correct or improve curricula, and to make changes in response to the needs that were identified.

These assessment results are a small percentage of all research, but I think we have some reason to be optimistic that perhaps we as researchers are learning better how to prepare and report our data and work closely with practitioners so it can be implemented.

On the matter of standards we do something very similar to the ETS. The Education Commission of the States provides service to all its member States by keeping them informed of all of the State legislation or State regulation being created in the whole minimal competency standards area; Forty-nine out of the 50-States have something actively going on at the present time. This is relatively new; it has occurred all in the last several years. The Education Commission of the States is planning a series of regional conferences in the fall to help the States have more information about these concerns, to know what is available from the various States, and to have a chance to talk with each other about their concerns with these problems, and issues.

We at the Commission, the National Assessment project, and I personally, are quite encouraged that the States are taking an extremely active role in this area.

We do have problems, however. One that continues to come to my mind is that 13 percent of the 17-year-olds in school are functionally illiterate. When you get into low socioeconomic areas it is about one out of every five. So the need is there. The States have recognized the need and are taking action.

I support the position Dr. Turnbull has stated. Standards should be essentially a prerogative of the State or local education agency. We are seeing movement in that direction at the present time. If technical assistance can be provided from the Federal level, we feel continuation of the efforts of the National Assessment in having the national comparative data available, will enable the State systems to use this type of information for comparison when they set standards for their local and State assessments.

I guess, in summary, I feel it should be a State or local prerogative to set standards, and since we see movement in that direction at the present time we should give the agencies who have responsibility for education in this country an opportunity to act.

Senator PELL. I have a series of questions I would like to ask. Perhaps you could make your comments or answers short.

I want to be sure I understand the position of each of you.

You both oppose mandatory tests across the country. Is that correct?

Dr. FORBES. Yes.

Dr. TURNBULL. Yes.

Senator PELL. By the same token, you would be supportive of an optional Federal test being available to be applied by a local educational system if it wished. Would that be correct?

Dr. TURNBULL. I have some concern about answering yes to that question. I believe the more options there are the better. The problem, in my mind, would be if the national test took on such an aura of requirement, despite all efforts to the contrary, that people felt more or less compelled to use it, against their belief that it provided a good fit for their educational objectives. I would be concerned. And I would prefer to leave a freer climate of choice in the schools than I believe would be engendered by a national test, even though its voluntary character were made as clear as one could.

Dr. FORBES. The National Assessment at the present time has a pool of items that contain the documentation for how to score as well as how to administer, and all the national and regional data. That pool contains almost 1,800 items at the present time. That information is all available for local and State governments or education agencies to use.

I guess it is a rather egotistical view, but I think the service is presently being rendered through the National Assessment, a federally funded project, and that the service is being made available to States and locals. If they would like to make use of those items and the methodology of National Assessment, then they have the information with which to compare at the national level. It needs some modification—I hasten to put that qualifier in there—but I think the need is presently being met.

Senator **Pell**. You would be supportive of the availability of optional tests across the Nation? Why are you wiggling around on this?

Dr. **Forbes**. I would be supportive of the items being available for optional use at the local level, but I encourage giving the locals the opportunity to construct their own tests.

Senator **Pell**. I must ask your forebearance. I have to recess for about 10 minutes; but we will be back in about 10 minutes.

[Whereupon, the subcommittee was recessed from 11:15 a.m. to 11:25 a.m.]

Senator **Pell**. The subcommittee will come to order.

Dr. Forbes, you have in one of your reports, on "Writing," the statement that:

> In a survey of writing skills taken first in 1970 and repeated in 1974, National Assessment found that, in 1974, students aged 13 and 17 used a simpler vocabulary, wrote in a short, "primer-like" style and had more incoherent paragraphs than their counterparts in school four years earlier. Only the 9-year-olds' papers showed an improvement, with the proportion of good writers rising in 1974.

This would seem to indicate if they were truants and stayed away from school they would have improved.

What is your explanation for the facts underlying this conclusion?

Dr. **Forbes**. We found similar things in the reading assessment, Senator. We found improvement in the 9-year-old level and no improvement at 13 and 17 year-olds, and a strong suggestion of a decline in the 17-year-olds in ability to infer from what they read.

The decline of science knowledge of the 13- and 17-year-olds was greater than the 9-year-olds.

I don't think it is a function of staying in school, but what was not happening in school when the 13- and 17-year-olds came through.

Based on my experience in a large city school system, in Louisville, Ky., I know we are going to have results from the massive infusion of Federal dollars, at the primary level, grades 1, 2, and 3, both in reading and mathematics. So my guess is that—just a guess, not based on National Assessment data—we are going to show benefits from the programs, those programs implemented at the lower levels of school. We do not have the same types of programs implemented at junior and senior high schools. It is my guess that is the reason. Again, it is merely a guess.

Senator **Pell**. I think the record of this hearing and the previous ones, when printed, will prove of interest to people across our country when they turn to this subject of tests. That is why I am putting in as much of the material you submitted as possible.

I have a series of questions I want to run through, and I think your answers will be of significance to this dialog.

Dr. Forbes, with all of the information you have collected at National Assessment you must have a pretty good handle on the status of education in the United States.

Could you give us a summary of it as you see it today?

Is it improving? I gather from your remarks it is.

Is it improving as the race for increased knowledge in our technologically advancing society requires education and knowledge?

Dr. **Forbes**. I guess it would be nice if there were an easy yes and no, and no up or down to the question.

Senator **Pell**. There will be more, later questions like that.

Dr. Forbes. Basically what I see occurring is increased ability among the nine-year-olds for the most part, with the exception of science. I think that can be explained because we probably peaked out in science interest after Sputnik and National Assessment picked up on the downward stream of that interest in collecting our data.

In the data we have collected on writing and reading, we have seen improvement in the 9-year-old level. If we look at the 17-year-old level, we see also an improvement in the students' abilities to handle the most basic of reading tasks, that is, following or using an index in a newspaper, or following directions, reading signs, reading directions on a medicine bottle. In other words, 17-year-olds have improved in their ability to perform very simple reading tasks.

At the same time, there is a suggestion of a decline in the ability of those students to infer from what they have read. Students are pretty well off when it comes to the most basic of the basics, but at the level of making inferences from what is read, students have problems.

For certain groups of students that historically have performed quite low in all our assessments, those problems still remain. For example, the blacks in the Southeast, or in general, have performed at a lower level on the tests than the white population. I think it is probably attributable directly to socioeconomics, but we are beginning to see that gap start to close, which is quite encouraging. But the problem is still there.

Thirteen percent of the 17-year-olds in school are functionally illiterate. When one looks at students served by schools in the lower socioeconomic areas, functional illiteracy goes up to 20 perent.

Senator Pell. Is it not basically economics, that determine these results? You say the blacks have not done as well. Is that not because of what the family income is, whether for blacks or whites? Has there been a paralleling of the structure so you can say such a community, predominantly black, did not do as well in the test, but you can also point out that the income level of that community is much lower than average?

Dr. Forbes. Yes. We report data for size and type of community in which the students live, going from what we call high metropolitan, the affluent areas of a metropolitan area, down to what we refer to as low metropolitan area, where most of the families are either on welfare or unemployed.

As one would suspect, those people in the lower socioeconomic strata perform at the bottom.

Senator Pell. Skip socio and just say lower income. It is more family income?

Dr. Forbes. Yes. The performance of those students is lower than of those from families with higher income. Included in the issue is the matter of the parents' education. We ask the students what grades their fathers and mothers completed. We are getting perceptions of students rather than the actual fact; but it is their perception of the educational level of the parents. Again, the lower amount of education the parents have the lower the performance of the students.

Senator Pell. Have you ever attempted a correlation between how many more years of schooling those children have than their parents?

If the average parent had say 5 years of education the average child of that parent would have 7 or 8 or 9?

Dr. **Forbes.** We have not done that. We have the data that would allow it.

Senator **Pell.** It would be interesting to be able to say across the board: "On the average today youngsters have x years more schooling than their parents."

Dr. **Forbes.** If we look at the data for a group, for example the Hispanic students, as a group they score low, but there are Hispanic students who score very high relative to all students.

It is not a matter of saying blacks or Hispanic score low. As a group, more students from low-income, low-economic conditions score low, but within the group there are students achieving at very high levels.

Senator **Pell.** Really depending on income. Rich Hispanic would score higher than poor whites, wouldn't that be correct?

Dr. **Forbes.** Our sample is too small to draw that conclusion. I would guess that is right.

Dr. **Turnbull.** I believe, Senator, it is very important to remember that within any group, such as Hispanic, among families of low income, there will be some very high-scoring students.

Dr. Forbes is discussing, as he said, average performance rather than saying one can indicate the performance of any individual according to group classification.

Senator **Pell.** Do you include Portugese in the Hispanic group. This is of great interest in my State. We have a large number.

Dr. **Forbes.** Frankly, the reporting of our Hispanic data included many caveats and limitations. We collected data on heritage by visual identification or by using someone familiar with the school system to identify the nationality or cultural background of the students. We were able to list students as being either Mexican-American, or Puerto Rican, or others.

We have further broken it down now to pick up Cubans and Central or South Americans.

We have not tried to pick up the Portugese population.

When we reported the data we had a sample large enough to report the way the Hispanic in the Northeast and Western States performed.

Senator **Pell.** When the national assessment was first stated. I remember, a lot of concern was expressed by the professional educators and the chief school officers that the effort would lead to a national curriculum and Federal control of education.

Has that concern disappeared?

If so, how did you manage to overcome those fears?

Dr. **Forbes.** The concern has not disappeared. I think the people who were concerned remain very alert. Any time I have spoken with groups and even started to suggest something that looks to anyone like it would lead to a national curriculum I get the question in a hurry.

Senator **Pell.** So many of us walk on eggshells. We are pressing you on the one side, and your constituency presses you on the other side, as is true of so many issues.

Dr. **Forbes.** National assessment is thought of as a somewhat quasi-independent organization, that is, one that is funded and supported by the Federal Government but the project is not controlled by the

Federal Government. Therefore we have been able to establish an acceptance at the State and local level, and it is kind of based on a lot of mutual trust between the two.

We also provide the States and locals with a great deal of service. If the State calls and wants to have some of our information or receive technical assistance, we make it available very quickly.

So I think that concern is—it is quieter, would probably be the word to describe it at this time. But the people remain alert.

Senator PELL. If you change your views and testimony here to that suggested by Admiral Rickover when he was here earlier, that concern would become very much alive, would it not?

Dr. FORBES. It would become very much alive. So politically there is, I guess, reason for my carefully chosen words.

But I happen also to personally feel very strongly, coming from a local school system background, that that is where I would like performance standards set.

Senator PELL. You mentioned several examples of how States and local districts use your data for comparison purposes. In this regard, how many States have used National Assessment data for comparison purposes?

Second, what other services do you offer to States and local districts?

Dr. FORBES. I touched a little on the second question earlier.

With regard to the first question, at the present time there are 11 States that have used our items and methods in replicating portions of national assessments. Not all subject areas have been replicated, I hasten to add.

At the present time we have entered into negotiations with the State of Michigan to possibly do a concurrent assessment in the career occupational development area. The list will continue to grow.

Senator PELL. I will ask that there be inserted in the record the 11 States, which I am glad include my own State.

In regard to the services you provide, you have touched on them. Can you itemize—1, 2, 3, 4—any other services you have provided?

Dr. FORBES. I think foremost would be the items I mentioned earlier. Currently 1,800 items are available for local or State use. A state or local agency can select from these items in developing assessments unique to their programs.

In addition to making items available, and offering technical assistance at the State level for replicating what we do in the National Assessment, we send out a newsletter to State and local people at their request. I think the latest issue was mailed to more than 30,000 people.

The newsletter keeps people current about what is going on with National Assessment, and also what is happening in some of the State assessment programs.

We run each year a conference for State assessment people. It is held each spring. This year we had approximately 250 people from 42 of the States present. They exchanged ideas on what is happening at the State level, or at the local level. Most attendees are State assessment testing people, people from other testing organizations, and local agencies. Recently, some State legislators have attended.

Senator PELL. Have you had such a conference in Rhode Island?

Dr. FORBES. No; this is held each year in Boulder, Colo. But people from Rhode Island have participated.

We work closely with the State assessment people in Rhode Island.

Senator PELL. Has National Assessment established standards for student performance?

In that regard, do you find it difficult to interpret your own data?

Dr. FORBES. No; we have not established national standards. That is one of the things we previously touched on, and we have stayed away from establishing standards for the reasons I have mentioned.

The objective of National Assessment is to monitor, at a national level, what is going on in education. The primary purpose of the assessment is to measure changes in student achievement over time so that educators and government officials will know what progress is being achieved in reaching the country's overall educational goals. This is the service we are providing. I think this makes it all worthwhile.

Senator PELL. Why do you survey by age level rather than grade level?

Dr. FORBES. When the National Assessment was designed in the mid-1960's the question of age level versus grade level was wrestled with for some time. States have age entrance requirements for first grade; in some States students have to be 6 years old by October 15—I believe this is the earliest—other States have a deadline as late as March 31. So immediately you get into a problem of how maturity affects the achievement. The designers of the project concluded it would be best to go with age level assessment.

Starting with the data we collected last year, we have now started reporting the grade within age data, and that makes it easier, then, for States to compare.

An example, in the packet I handed out, was the Washington State educational assessment; a replication of some of our items. We have provided them with the grade and age data, and those are the data they use to make comparisons.

Senator PELL. Your report uses data at the national and regional level, but not at the State and local level. Why is that?

Dr. FORBES. When the program was designed there was the concern that a national assessment could lead to a national curriculum with the possibility of Federal takeover of the school system.

One of the compromises was to set up a design that would not report State-level data. Therefore, no comparison between States would be possible and the problem would be avoided.

At the present time we have seen a movement, however, toward some interest in State-level data. The current president of the chief school officers association, I think, has made statements in support of State-level data.

From a project point of view, we would be willing to expand our sample to provide State-level data, but I feel it should be on a voluntary basis; if the States want to participate they should be allowed to, always with the caveat that the dollars are available to do the assessment.

Senator PELL. If the State wanted to get data I guess the chief State school officer, or the Senator from that State, could ask you for it, could he not?

Dr. Forbes. That is a tough one.

Senator Pell. Why?

Dr. Forbes. The sample size within any one State up to now is small enough that it would not be representative of the State. So therefore we have fears that the data could be misunderstood or misinterpreted. We have been hesitant to provide any State-level data at any time and up to this point we have not done that.

Senator Pell. How large is the sample in my State of Rhode Island, which represents one-half of 1 percent of the total population?

Dr. Forbes. I don't have the exact figure.

Senator Pell. Roughly.

Dr. Forbes. I really do not know, sir.

Senator Pell. Would you submit that for the record?

Dr. Forbes. I certainly can.

Senator Pell. Thank you.

Another point you mentioned in your testimony was that in ghetto schools, schools enrolling large numbers of the disadvantaged, there has been a 4-percent improvement in reading ability in the past period of time. Is this perhaps because we have focused our attention on problems there, with title I money?

Does this mean when we can identify the problem and focus on it one sees immediate improvement—to be optimistic?

Dr. Forbes. I might disagree with "immediate."

From my experience at the local level, it took us a long time to learn how effectively and efficiently to spend those dollars. I think we have probably turned that corner as far as some of the primary reading and math problems are concerned.

But if we tried to evaluate after we had been into the program for 3 to 6 years we probably would not have found many successes.

Senator Pell. You don't think title I is directly responsible for this improvement, that without title I you would have found no change?

Dr. Forbes. Strictly a guess again, based on the data. I think title I has been a very important element. But from a research evaluation viewpoint I see no way to separate the effects of title I from other things. It is kind of a combination of everything, and being able to place emphasis on, say, reading in the primary grade. Because that money was available and that could happen. I think we see a payoff.

Senator Pell. Thank you, Dr. Forbes.

Now, Dr. Turnbull, in your testimony you define the Federal role as "describing a valid standard-setting process for States and local districts."

Don't you think the Federal Government might be able to go further than this and even produce standards that the Federal Government itself could set?

Dr. Turnbull. I think it might be very useful for the Federal Government to undertake such a step.

I think the question would be whether those federally determined standards should be made mandatory for application in all the States.

A model of how such steps should be undertaken would be a tremendous advantage.

Senator Pell. I am not pushing for mandatory tests, but optional tests, where the Federal Government, with its prestige, would make them available. Just as most people wear neckties if they are working in an office occupation, so most school districts would tend, in the end, probably to conform to it. However, there would be nothing mandatory about it.

Dr. **Turnbull**. I was distinguishing between the standard at which a student would have to perform to be judged adequate in basic skills, which I believe could be usefully designed on a model basis at the national level, and the test on which the extent of the student's development would be measured.

In other words, the test would be analogous to a yardstick. A standard is how tall the person would have to be in order to be adjudged to have had adequate nourishment.

As far as a national test is concerned, if one believes that it could indeed be retained as an entirely voluntary, noncoercive activity, as I have said before, the addition of a national test as a model and an option I think would be an addition, a useful addition, to what is now available in the Nation.

I think whether one chooses to adopt or promote such a view or not depends heavily on one's judgment as to the strength and pressure that would build up behind the adoption of such an examination.

Senator **Pell**. If such examination could be made available not only on a school-by-school basis but also students in the school itself could apply to take the test, some would and some wouldn't?

Dr. **Turnbull**. That would be possible, yes.

Senator **Pell**. In your prepared testimony you said youngsters seemed to be about the same after 3 or 4 years of schooling now as they were before. Where the results seem to drift down is after that period.

How do you account for that?

Dr. **Turnbull**. I am not sure. I think Dr. Forbes mentioned the greater effort made in the earlier grades, which is a logical reason. It is very hard to prove one thing is the sole cause of something else. I believe I would also be a little concerned about being too definitive as to the cause. I think two things may account for the decline in the later years. The first may be simply the extension of more years of schooling to a larger proportion of the age group. Some students who probably would not have stayed in school through the upper grades a generation ago now stay in school. I believe those who would have dropped out of the school population are on the whole students of lesser academic background. Therefore their dropping out in earlier years had the effect of raising the averages.

That may not be all of the answer. It is one that is easiest to describe. There may also be later effects in the schools of a changing curriculum, moving away from as large a concentration as previously on the reading and writing and arithmetic skills of students and toward the inclusion of different subjects.

Senator **Pell**. Can you give an example of how the Federal Government could give technical assistance in order to provide comparability among the different test scores?

Dr. **Turnbull**. Yes; there is a model, which wouldn't be the only one. Some years ago the Federal Government found schools were handicapped because they were not able to compare results of students who had taken different kinds of widely available tests in reading, particularly in the earlier grades. So it was impossible to make sense out of the kinds of records that were available across the States in the field of reading.

The Federal Government undertook a study to place the results on third-grade reading tests—a wide variety of tests—on a single standard or scale so that the scores from the different tests could be entered into a similar record and one could get a picture of how an entire school district or entire State was doing, despite the fact that local option was retained in selecting particular examinations which the different schools wanted to use.

That is an example. I think something could usefully be done in other basic skills at other levels, such as the ninth grade.

Senator PELL. I thank you both for your patience.

I would like to see submitted in the record—you might like to submit it later—the idea of each of you if you were asked for an optional test on reading comprehension, writing, and arithmetic, your version, your thought, of what such optional test would be, to prepare such a test. We will put it in the record just as an idea that you have, not nailing you to it, but as your thought. Just on those three things; not on biology, or history, or any other subject—just the ability to comprehend a paragraph, write a paragraph grammatically, and simple arithmetic.

You are going to submit for the record also, I think, Dr. Forbes, the size of the sample in Rhode Island. I would be very interested in that, and in anything else you care to submit.

We will keep the record open for 2 weeks for that.

Dr. FORBES. I will be glad to.

Senator PELL. I want this printed up, then, as quickly as possible, because I believe these two hearings will make a very real contribution to the matter.

Dr. TURNBULL. We will be glad to submit that for your consideration.

Senator PELL. Thank you very much.

[The prepared statements of Dr. Turnbull and Dr. Forbes along with additional information for the hearing record follow:]

STATEMENT BEFORE THE
SUBCOMMITTEE ON EDUCATION, ARTS, AND HUMANITIES
COMMITTEE ON HUMAN RESOURCES
U. S. SENATE

PROFICIENCY IN BASIC SKILLS

July 27, 1977
WASHINGTON, D.C.

William W. Turnbull, President
Educational Testing Service
Princeton, N.J.

Mr. Chairman:

It is a privilege to discuss with you the important and difficult questions of basic skills, minimum standards in education, and the role that Federal initiatives might play in ensuring that people in the United States are equipped with the competencies they need to function successfully in this society.

A. There is a need for national attention to basic skills

Perhaps the first question to be asked is whether or not there is a problem. Is there a need for national attention to the basic skills and the extent to which students are attaining them?

The answer, I believe, is "Yes." There is no doubt that there are substantial numbers of students who pass through and graduate from our secondary schools today without the skills in reading, writing, and mathematics that they need both as a basis for further learning in all subjects and as prerequisites for participating fully in the responsibilities, opportunities and rewards that are integral to life in this country.

B. There has been a decline in basic skills

The belief is widespread that the situation now is significantly worse than it was a generation ago: that the numbers of students whose skills fall below any reasonable standard of adequacy is now substantially greater.

The data on this point, although not all pointing in the same direction, tend to support the view that there has been a decline in skills. In one sense, the fact of a decline is not the main issue, since if there are too many people who lack essential skills we have a serious national problem regardless of the trend. But if we are losing ground, as many think we are, we had better know it and do something about it.

A widely reported assertion is that average scores on the Scholastic Aptitude Test of the College Board, taken near the end of secondary school, have been going down since 1963. The reports are correct; the scores have declined. In 13 years to 1976, the SAT-Verbal Score made by the average student taking the test had gone down some 50 points, from 478 to 429, and the SAT-Mathematics score for the average student had declined by about 30 points, from 502 to 470. The reasons for the change are still under study by a distinguished panel, chaired by Willard Wirtz, that expects to report in another month. Meanwhile, the fact of the decline has been interpreted by many people as evidence that the schools are no longer doing as good a job as they did in the early sixties.

It is important to recognize that the SAT itself is not a test of basic skills but rather of much more advanced academic ability. Moreover, the SAT results should not be taken as a measure of the quality of the schools. The test is intended to reflect abilities developed in a variety of settings, in and out of school, rather than to mirror the adequacy of the teaching and the courses of study in secondary school. Moreover, the ranks of the SAT-takers increased greatly over the period and some part of the decline no doubt reflects the fact that the young people taking it today include many who would not have applied to college 15 years ago. Nonetheless, the decline in scores may reflect, in part, school-related changes, and in any case it is a challenging piece of information demanding attention. It is generally consistent with results drawn from a variety of other national or regional exams that show a downward drift in performance levels in recent years at the high school level. The declines are less in the earlier grades, and in fact in the first three or four years of school the attainment of pupils appears to be substantially the same as before.

Nonetheless, the evidence is convincing that in the upper grades there is a large enough number of students with deficiencies in the basic skills to constitute a serious problem. And the number is probably growing.

C. There is widespread public concern

As is not unusual, thoughtful people around the country, including many educators, had been personally convinced for some time before the formal evidence was in hand that the problem was real: the statistical evidence is confirming a popular consensus already reached.

The reaction to the problem has, indeed, been remarkable. There is a ferment and an impulse to action of a breadth and intensity seldom seen in education. It owes its force both to educators and to the general public, is reflected in the media, and finds expression in demands for legislation, often to require some form of test in the basic skills.

D. States and local school districts are taking action

Illustrative facts are emerging steadily:

-- Forty-nine states are planning, now debating, or have enacted resolutions or legislation on testing for competency or proficiency. Since January of this year alone, 23 states have introduced legislation. And California, Florida, New York, and Oregon have begun this year to implement their programs.

-- A recent task force of the National Association of Secondary School Principals called for the establishment of competency requirements for high school graduation in communication skills, mathematics, and American history.

-- The National School Boards Association polled its members and found more than 75 percent believed schools should concentrate more heavily on the three basic skills areas.

-- Gallup's latest annual poll of attitudes toward the public schools showed that 65 percent of the American public now believe all high school students should be required to pass a nationwide examination prior to high school graduation. In 1958, just after Sputnik, only 50 percent of the public expressed support for such an exam.

-- The report on competency testing by the National Commission on Education Statistics was based on an August 1976 survey conducted for the National Institute of Education. At that time, five states -- accounting for 25 percent of the nation's public school enrollment -- had competency-based testing programs in operation. An additional 24 states were then involved in some form of performance-based educational activities with emphasis on basic skills. Three more have since become involved. In total, the report stated more than 67 percent of the total public school enrollment in the United States is already involved in basic skills testing in one form or another.

At the local level, the following examples could be multiplied many times over to obtain a total picture:

-- In Denver, Colorado, a set of minimum competency tests for high school graduation has been administered since 1962. The tests cover reading, spelling, math, and language mechanics. Remedial instruction is provided for those who do not pass the tests. The state itself has not mandated a test, but rather has set guidelines for the kind of test that should be used for districts that want to implement a program.

-- Beginning in June, 1979, the Los Angeles Unified School District will require its graduating seniors to pass the Senior High Assessment of Reading Proficiency (SHARP) test in order to receive a diploma. Students will have up to four opportunities to pass the test. Remedial instruction will be provided.

-- In Duval County, Florida, a program testing for functional literacy began with ninth grade students during this last academic year.

-- The Gary, Indiana, School System, as one of its system-wide proficiency examinations in the basic skills of reading, writing, math, and oral communication, last fall had all ninth grade students write individual essays. These were centrally graded by teachers in the system under arrangements designed to insure comparability of the standards applied.

In short, the models for coping with this educational problem appear to be almost as many and varied as the localities and levels of government in which they are being developed. Those local perceptions that have helped create a wide variety of approaches to educational issues and problems continue to lead to a broad array of methods to evaluate, diagnose, and prescribe. An ETS report, Basic Skills Assessment Around the Nation, provides a brief review of activities in states and local districts in this area as of early this year. An update to this report, prepared this week by the ETS Information Division, is also appended.

Clearly, then, the issue of basic skills both deserves and is receiving urgent attention across the country. In this circumstance, is there any need for Federal involvement?

E. Federal involvement can help

I believe the answer is that Federal action is needed. The question is what form it should take.

The surge of local and state interest in children's education is an asset of enormous value. We are seeing a genuine grass-roots movement. The public has identified what it sees as a critical educational issue, and it is right. If the energy and the desire for improvement now apparent can be given point and focus, and if the means of translating it into intelligent action can be provided, the movement could mark a turning point of major significance in education.

The principal need at the Federal level is, I believe, educational leadership in delineating constructive alternative solutions: models of what can be done and how. The second need is to do some of the research and to develop some of the techniques that will be needed for effective action. The third need is the channeling of some funds, new or already appropriated, toward this set of problems. In short, there is an opportunity to capitalize on the enthusiasm and ideas already present and to make available the resources that can be drawn upon to help make the efforts effective.

F. A Federal testing program is not needed now

Present conditions also suggest that Federal moves that are indeed possible might be largely redundant and at worst counter-productive. There is, for example, no evident need for a campaign to raise public awareness: it has been raised. There is no apparent need for the creation of a Federal program of testing for minimum competencies: there is already an array of such programs in place or now being installed, with some variety that will accommodate to the differences in emphasis favored in different parts of the country. Superimposing a national system, even a voluntary one, on a scene of vigorous local and state initiatives already underway, would run the risk of dulling the sense of immediate, close-at-hand need for cooperative self-help that is powering the present movement. It would also raise, unnecessarily, sensitive questions about the "intrusion" of Federal influence in State and local prerogatives.

The most difficult task in any program of testing for competency is setting the level of accomplishment that will be judged "adequate." While there is wide agreement in the educational community and among members of the general public that reading, writing, and mathematics are essential to the educational process, there is no consensus on the questions "How much, for whom, where, and when?" It seems doubtful that these questions are best answered by Federal intervention or fiat.

In order to implement a Federal standard or system of standards, it might be deemed necessary to have an extensive support apparatus with provisions for the development of new test forms, and perhaps for the maintenance of security on existing forms. The impact of such a system on the education community could be highly negative. A single national standard also has the potential for leading to labels ("skilled" or "unskilled") on diplomas, and perhaps on people, without the application of a set of teaching methods and resources aimed at giving the individual student -- by teaching, textbooks, and time -- the competencies that he or she lacked when the test was taken. The latter responsibilities, of course, rest with the states and localities.

A Federal role in describing a valid standard-setting process for states and local districts could, however, be distinctly helpful - a point I return to in Section H.

G. Specially developed tests are not needed

If there is no need for a national testing program, may there still be a need for a new set of tests developed under Federal auspices? I believe this is not the case. There is an ample supply of tests, their diversity is a great strength in a pluralistic system, and their quality on the whole is good. In particular, I see no prospect that the problem of "cultural bias" would be ameliorated by a Federal effort. Two of these points are expanded below.

1. There are many tests already in widespread use

Test publishers, both profit-making and not-for-profit, have been active in meeting the demand for tests of basic skills, often accompanied by material to test a broader array of educational attainments. The tests have been in particular demand for evaluating programs funded under Title I of ESEA. The U. S. Office of Education has sponsored a summary of the content of eight commonly used, nationally normed tests, and the Region V Technical Assistance Center, administered by ETS, has recently issued a one-page overview (attached) of those tests and the latest developments with regard to each.

There is a problem posed by lack of comparability among the scores reported for the several tests, which use somewhat different score reporting systems. Federal assistance in providing comparability, which is technically feasible, would be distinctly useful.

2. Cultural factors would not be eliminated by a national test

It is my understanding that the question of the influence of cultural factors on test scores may be of particular interest to the Subcommittee, and properly so, because of the importance of this matter in any consideration of national policy. Accordingly, I shall treat the question at somewhat greater length than might otherwise seem necessary. It is well documented that on the average, various cultural and other groups score less well on tests of school subjects, including basic skills, than do white middle-class students. The lower-scoring groups include some ethnic minorities, children of the poor, children for whom English is a second language, and persons with combinations of these and other background conditions. In this context the question that must arise is whether the lower average scores are attributable to bias in the tests themselves. Much research has been devoted to this question -- and to important related concerns-- in recent years.

Over many decades people have tried to devise "culture free" or "culturally fair" tests (for instance, by using problems posed entirely in pictures) in the hope of reducing the differences in performance between groups. The results have been discouraging in two main respects:

a. the scores from the specially designed tests have proved to be less relevant to educational attainment than those obtained from conventional tests, and
b. the new tests have shown score differences between groups as great as the differences on the tests they were designed to replace.

It would appear that cultural factors permeate the exercise of the intellect to a much greater degree than had been assumed by those who hoped that changes in content, format, or mode of presentation would wipe them out.

At the opposite extreme would stand tests developed without attention to cultural bias, which could thus include questions particularly dependent on familiarity with a particular culture, although such familiarity is irrelevant to the particular educational skills being tested. These might be called "culture-saturated" questions. For many present-day tests in wide use, both editorial and statistical steps have been taken to reduce or eliminate such questions.

It is common practice in test editing to arrange for critical review of individual questions by minority-group members, and to eliminate or revise any material found objectionable, or depending on knowledge specific to a particular culture.

Another check is provided by the statistical procedure called "item analysis," which means analyzing the way a question performs in the context of an actual examination. Item analysis is a procedure in which the answers chosen by various subgroups of students are analyzed to make sure the question is as easy, or as difficult, as those who wrote it felt it would be. Item analysis is generally first applied when questions are pretested (included in an actual examination, but not counted as part of the final score). As part of the item analysis a check is made to discover questions that prove unusually difficult for minority students. Such questions are typically eliminated.

In these ways, questions representing the kind of "cultural bias" that concerns most people--"culture saturated" questions--are minimized.

Two further kinds of "cultural bias" remain in most tests, however. One stems from the fact that questions on all widely used tests are phrased in standard English. This may be called "basic language bias." A student whose experience has been gained in a different idiom can be expected to be less at home with a test in standard English, and to do less well on such a test than a student of comparable basic ability who has grown up with standard English as the medium of expression. This reality is especially important for students from families where a language other than standard English is spoken.

To charges that basic language "bias" exists in most tests, the answer must be, "Yes, it does." Tests of basic skills measure the ability of students to read standard English, to write it, and to perform the calculations required to solve problems posed in standard English.

It is of course quite possible to develop and give tests in the student's first language. This is now done in many areas, such as the Southwest, and the process can produce useful information about a student's ability to cope when problems are posed in that language. But it must be remembered that the student's ability to solve word and number problems posed in the language of the majority culture is of legitimate concern, since it shows whether or not she or he is able to cope at a minimum competency level when problems are posed in English. This is an important prerequisite either for using basic skills as essential tools in further learning or for applying them to successful adult living in the United States.

The third kind of bias is "bias of opportunity." It is a fact that students in this country do not yet have an equal opportunity to learn. They may have gone to more or less effective schools, with more or less well-trained teachers, with greater or lesser opportunity at home to expand their knowledge. Opportunity is not yet equalized across all subgroups of the population. Such "bias of opportunity" shows up in performance on standardized tests.

Two possible approaches have been proposed in these circumstances. One would be to try somehow to give extra points on the tests to students who had learned under adverse circumstances, so that a score would be adjusted according to the educational handicaps overcome by the student. Though this proposition has been given considerable thought, and has had some research devoted to it, no one yet knows how to do it. Moreover, there is a responsible body of opinion to the effect that applying a variable yardstick would be more confusing than helpful.

The other approach is to say, "The test score tells you how well the student has mastered the skill in question. It does not tell you the obstacles he or she has overcome to attain that degree of proficiency." If one is concerned with helping students develop a level of skill necessary to get along in our complex society, it is important to be able to measure attainment separately from the question of how the learning was or was not acquired. When it is found that a student needs help to bring a particular skill to at least a minimum level, the educational job is to provide the instruction required.

I have attached some sample test questions like those now included in tests specifically designed to measure basic skills. These materials have been reviewed for minority bias and would probably be judged as unbiased by most reviewers.

H. Federal help of specific kinds is needed to allow a decentralized system to work well

Having indicated that I do not believe that certain Federal actions would be helpful, although they have been put forward cogently by others, I would like to return to the view expressed in Section F -- that Federal involvement can help -- and propose several more specific actions for your consideration.

1. An affirmative declaration by the Congress and the Administration that the issue of basic skills is of national importance, is one in which the public interest is strong and is an area to which Federal actions should be devoted in support of State and local efforts.
2. The provision of funds for Federal help through the appropriate agencies within HEW and through additional appropriations to be distributed on a state basis.

The help to be provided through USOE or NIE should be designed in close consultation with the people who are trying to solve the problem at state and local levels. In general, it should concentrate on those things that should, for efficiency, be done centrally as a service to all states rather than invented anew by each. Specifics might include:

- developing models of successful ways in which people have already approached tasks such as
  - ° defining the basic skill areas of concern and the elements within the broad areas,
  - ° deciding on the educational levels at which to test, including adult,

- deciding how to select, from among the available tests, those best suited to state or local needs,
- reporting results to teachers, students, parents, school boards, the public. (This might include relating standards of performance on the tests to real-life objectives of coping at various levels of adequacy in American society.),
- devising techniques that can be used in setting minimum standards for a community or state,
- developing teaching and learning programs to bring basic skills at least to minimum acceptable standards, and integrating them into the educational structure of a school district, and
- devising ways to provide training for teachers, aides and others who will help students learn basic skills.

- providing information to allow results from different tests to be expressed in comparable terms, to allow the information to be brought together for larger units (e.g. states, regions, the nation) and to minimize the likelihood that redundant testing will be required. A successful effort ("Anchor Test Study") was undertaken in reading at the elementary level a few years ago.
- providing a clearinghouse of information about activities in progress around the country.
- designing a system to monitor progress nationally, overtime, in overcoming problems in the area of basic skills, and to identify and encourage those practices that are most effective.

The last point deserves emphasis because of course the uncovering of deficiencies in basic skills is a means, not an end. The end is provision of skills at the requisite level. For this reason, the aim should be to diagnose the learning problems, not to point the finger of blame; to design effective teaching and learning methods, not simply to keep score. It will be important that the Federal role be conceived, presented, and understood not as a concentration on passing or failing, winning or losing, but on fostering essential learning.

I. Basic skills training is not enough

It seems self-evident, perhaps, that acquiring the basic skills at a minimum competency level is the start of the pathway to learning, not its end. It would be tragic if anyone were to conceive of minimum competencies as being sufficient in the root skills of reading, writing, and mathematics. The goal of our educational system is excellence. Each individual should be encouraged to progress in those fields to the highest level of proficiency of which he or she is capable. Nor must the three primary skill areas, important though they are, be allowed to shoulder aside the very learning that the acquisition of those skills makes possible in the sciences, the arts, the collective wisdom of our civilization. We will all be well served if the Federal government can find ways to strengthen the basics without implying that the country is ready to settle for minimum performance or a narrowed conception of our aspirations for learning.

If the Federal government puts its efforts fully behind the commitment to put a foundation of basic skills under the learning of every student in the country, I have no doubt that in the present climate of national concern among educators and the public at large, the leadership in the states and districts will be eager to enter into a constructive partnership to bring about that level of performance.

An ETS Information Report:

Basic Skills Assessment Around the Nation

BASIC SKILLS ASSESSMENT AROUND THE NATION

There is general agreement on the desirability of improving teaching and assessment of the basic skills. Parents, employers, and college admissions officials complain that many students graduating from the nation's high schools can't read, write, or compute at acceptable levels. One of the significant consequences has been a move toward the development of some form of performance-based standards of educational attainment that would, in effect, require that a student leaving high school demonstrate the attainment of a minimal level of basic skills.

State legislatures and agencies, responding to this concern, are in many cases mandating mastery of essential skills as a condition for high school graduation and for grade promotion. Seven states have enacted legislation mandating competency activity in some form--California, Colorado, Florida, Maryland, Virginia, New Jersey, and Washington. Another nine have taken either state board or state department of education action. In many more states, legislation has already been, or will be, introduced for consideration by the legislature; Minnesota, Alabama, and North Dakota have just introduced bills in the 1977 legislative session. In others, studies and pilot projects are being conducted by advisory groups created for the purpose of exploring the minimal competency issue.

Much of this activity will result in setting standards for high school graduation or grade-to-grade promotion and possibly for required proficiency at some point. In some cases standards at the junior high or elementary school level are also being considered. As the issue becomes broader, the outcome in some states will not always include a mandate for testing or competency requirements for graduation. Whatever the activity, there is no doubt that in the first half of 1977 there will be significant decisions made by many states as to the direction they will take regarding minimal competency.

ETS Information Division, which compiled this report, acknowledges the assistance of staff members in the various ETS regional offices, with particular gratitude to Theodore Storlie and Terri Strand of the Evanston, Illinois, regional office. Invaluable data also were provided by Chris Pipho of the Education Commission of the States, Denver, Colorado.

Because the status of legislation and other activity relating to basic skills assessment is changing constantly, the information contained in this report may not be completely up to date.

February 1977

Developments in Competency Testing

A profile of the nature and extent of performance-based activity throughout the country may be obtained by looking at the report of the National Commission on Education Statistics, based on a survey done in 1976 for the National Institute of Education. The survey of state education agencies, August 1976, showed that at that time there were 5 states with operational programs and a total of 29 states involved in some form of performance-based educational activities with emphasis on the basic skills. This figure represents about 67 percent of the total public school enrollment in the United States. Most of the states reporting PBE activities are in the planning stage. However, the 5 states with operational programs already account for more than a fourth of the nation's public school enrollment.

In those states reporting PBE activities, the two aspects most often included were:

1) "New or revised programs and/or courses, and 2) multiple opportunities to pass a required test of competence." Most of the states with PBE activity reported that their programs required or involved the following additional activities:

1) New proficiency tests for high school graduation
2) Out-of-school leaving opportunities
3) Local options in determining performance standards or criteria
4) Production and use of research information to assist administrators, legislators, and courts in formulating performance-based educational decisions.

Only a few states reported "new performance-based standards for teachers."

Several states, generally those currently engaged in PBE activity of some kind, expressed an urgent need for research and development on:

1) Pilot testing of competencies
2) Alternatives for measuring competencies
3) Identification of minimal competencies

Of the 15 most heavily populated states, 12 are moving in the direction of performance-based education. Twenty-two states listed "new proficiency tests for high school graduation" as an urgent need. Substantially greater interest in both basic and life skills programs exists among the states with a million or more enrollment than among the less populous states.

Evidence of Widespread Interest in Basic Skills Testing

- The report of the NCES survey concludes that the interest in performance- based standards and programs can be interpreted as a concern about "defining the goals of objectives of education, developing effective educational processes to attain these goals, and identifying appropriate methods to measure such attainment."

- At the National Association for Secondary School Principals/U.S. Office of Education conference on America's Secondary Schools, April 1976, an NASSP task force called for adoption of competence requirements in communication skills, mathematics, and American history as a condition for receiving a high school diploma. There was wide disagreement, however, on how such a requirement was to be implemented. The group also endorsed giving alternate certificates of competency to students not meeting all the high school graduating requirements.

- According to a recent National School Board's Association survey, more than three-quarters of the board members polled believed that the public schools should put more time and effort into reading, writing, and mathematics skills. Only about one in ten believes there is enough stress on the "three R's" currently, and only one percent see too much emphasis on basic skills in today's schools.

- The recent Gallup Poll of Public Attitudes Toward the Public Schools shows that 65 percent of the public now believes that all high school students should be required to pass a standard nationwide examination in order to get a high school diploma, compared with a 50 percent affirmative response in 1958.

- The National Council of Teachers of English is planning a book detailing the profession's views on competence in media and English studies for upper elementary and secondary school students and on the measurement of those studies. The book will describe the nature of competence in English and will present a collection of exemplary measures, contrasting them with inappropriate measures now in use. The NCTE sees a need for measures that address the special problems of measuring growth and competency in English to avoid the emergence of an adverse definition of English, one that would reduce English to "reading and proof-reading, to literal comprehension and superficial editing skills."

  An NCTE ad hoc committee on Minimal Competency Testing has drafted guidelines for the development of competency statements and measures of competence in English.

  Alan Purves, (University of Illinois at Urbana), will include a critical review of current competency tests in the spring 1977 review issue of Research in the Testing of English.

Activities at the State and Local District Level

ALABAMA

A 24-person task force has been working on recommendations for the total high school program and will present a report in the spring of 1977. The report is expected to include recommendations for competency based graduation requirements.

SB 79, recently introduced, would require local school boards to develop standards of proficiency to evaluate student progress in the performance of academic and basic skills, by June 1978. The state department of education would assist local boards of education to develop examples of minimal academic standards for graduation including performance indicators.

ALASKA

The department of education is developing the Alaska Statewide Instructional Support System for the purpose of meeting educational needs of students in basic skill areas of reading and mathematics. Student competencies are measured against state educational objectives. Tests will be based on items from the Alaska Objectives and Item Bank.

Local District

Craig Alternative School is conducting minimal competency activities.

ARIZONA

As of January 1, 1976, the state board of education required school districts to certify that 8th grade graduating students are able to read, write, and compute at the 6th grade level. Students graduating from high school must demonstrate proficiency in those skills at the 9th grade level.

CALIFORNIA

SB 1112 (1972), SB 1243 (1975). The two acts combined provide for the California High School Proficiency Test covering the basic skills of reading, math and computation skills, and consumer economics. Sixteen- and 17-year-olds (in 1975-76) may be awarded, upon successful completion of the test, a proficiency certificate legally equivalent to a high school diploma. They may leave high school if they pass the test and have received parent permission. The test is administered three times per year. In 1976, SB 1502, Ch. 315, opened the California High School Proficiency Examinations to any persons 16 years of age or over, or to anyone who has been enrolled in the 10th grade for one or more academic years.

AB 3408 (Hart Bill) signed into law in September 1976, requires school districts that operate high schools to adopt assessable graduation standards of proficiency in the areas of reading, writing, and computation by June 1978, and to assess student progress toward these standards once during grade 7 through 9 and twice between grades 10 and 11.

CALIFORNIA (cont'd)

The district must provide, for those students who do not meet district standards, a diagnostic and prescriptive remedial instruction conference or alternative ways of satisfying the district's course of study. After June 1980, students who do not meet these standards will not receive a high school diploma.

AB 2725, Ch. 473, requires the state board of education, by April 1, 1977, to prepare and distribute to each school district examples of minimum academic standards for graduation. This distribution will include the criteria used by the department of education in developing standards for competency in basic skills for the high school proficiency exam.

Local District

Los Angeles. Beginning in June of 1979, the Los Angeles Unified School District will require its graduating seniors to pass the Senior High Assessment of Reading Proficiency (SHARP) test in order to receive a diploma. Students will have up to four opportunities to pass the test; remedial instruction will be provided. Announcement of the SHARP test by the district has generated considerable interest by other districts.

COLORADO

No special proficiency testing is required by the state beyond regular requirements for graduation from the 12th grade. Local school districts are free to impose such tests, but must fulfill certain conditions if they choose to do so.

Local District

The Denver Public Schools administer their own minimum competency tests for high school graduation, have done so since 1962. The tests cover reading, spelling, math, and language mechanics. Remedial instruction is provided for those who do not pass the tests.

CONNECTICUT

The state passed a bill in 1975 requiring assessment in basic skills in high school, but the bill failed to receive funding. Substitute Raised Committee Bill 5839 would require a proficiency test for tenth graders after September 1, 1977.

A Statewide Advisory Committee for Proficiency Testing appointed by the state department of education is studying recommendations on developing a high school equivalent competency-based certificate. Final recommendations are due in June.

DELAWARE

The state department of education is developing a list of general competencies to be used as a prerequisite for high school graduation, as required by the state board of education in its resolution of December 1976. Some exploratory work is being done, using the Adult Performance Level materials. The department of education expects that by July 1977 it will have a plan for competency based education for 9th grade, to be used at the beginning of the 1977-78 school year.

FLORIDA

CSSB 107 (1976) This legislation has mandated competency requirements based on mastery of basic skills and functional literacy. Programs of pupil progression based upon performance will be required by July 1, 1977, tied to local goals and objectives. Performance in basic skills will be stressed (on statewide tests) before students may progress from grades 3, 5, 8, and 11.

By the 1978-79 school year, school districts must establish standards for high school graduation, to include mastery of basic skills and satisfactory performance in functional literacy, in addition to the number of credits required by the district school board. Each district is required to provide remediation for students needing it. Alternative diplomas must be awarded to those students unable to meet the standards prescribed.

Local Districts

Duval County, Jacksonville. High school seniors will take a test of functional literacy, beginning with the ninth grade in the 1976-77 school year.

West Palm Beach. The school board requires all high school juniors to take the Adult Performance Level test. Satisfactory performance on this test will become a graduation requirement, beginning with the class of 1978.

Broward County, Polk County. Both counties are developing K-12 performance standards.

GEORGIA

The state department of education has a statewide criterion-referenced testing program for the 4th and 8th grades. The tests, which are diagnostic, provide an individual profile in 20 basic skill areas. Tenth graders will be included in the testing program in the future. The state board of education is at present investigating the possibility of changing high school graduation requirements to include minimal proficiency standards for the life role skills, including specific recommendations for the student as the learner, the individual, the citizen, the consumer, and the producer. The recommendations are modeled after the Oregon high school graduation requirements. At the request of the state board, the department of education is conducting a major redesign of the Georgia School Standards, the first such major overhaul since the Standards were first administered.

HAWAII

Local District

The Kamehameha Schools (private) have initiated a curricular revision study that will investigate minimal competency structures and their influence on actual instructional programs.

IDAHO

The State Superintendent of Public Instruction has expressed interest in minimum standards for high school graduation to the legislature, but no public statements have been made.

ILLINOIS

The department of education is exploring the use of some form of minimum competency testing in basic skills and is considering developing a bank of objectives and items for use by school districts.

Local Districts

Chicago. The Board of Education is moving toward setting standards for high school graduation. Pilot examinations have been prepared and administered. A study is being done to determine an effective functioning level, involving young adults performing satisfactorily on the job, as a validation effort.

Peoria Public School District is developing a minimum competency examination for high school graduation, beginning with the graduating class of 1979.

INDIANA

Local District

Gary. The board of education has adopted proficiency standards for high school graduation, to go into effect in 1977. Proficiency in the basic skills of writing, reading, math, and oral communication will be required. In the fall of 1976, Gary high school students wrote essays for the purpose of identifying students needing remedial help in writing. Centralized scoring of these examinations was conducted by Gary teachers with the assistance of Educational Testing Service.

IOWA

Local District

Metro High School, Cedar Rapids, is involved in minimal competency activity.

KENTUCKY

Interest has been expressed in minimal competency in basic skills as a requirement for high school graduation. The State Board of Education has instructed the State Department of Education to make a study of competency based education and minimal requirements for high school graduation. The use of the GED test for high school equivalency is being investigated.

LOUISIANA

The State Board of Education will include, at the request of the State Department of Education, a study of minimal competency testing within the development of a state master plan for education.

MAINE

A small-scale opinion survey on high school diploma competencies was conducted. A statewide committee drafted competency statements in reading and math at the request of the state department of education.

MARYLAND

The state department of education has developed the Maryland basic mastery test for reading, administered in 6th, 9th, and 12th grades. This "survival reading test" is also being administered in the fall of each school year to grades 7 and 11 as part of the statewide accountability program. The SDE is considering a proficiency test for high school graduation and plans for reducing basic skill deficiencies. Several districts nave acted on proficiency-based graduation.

HB 1433 requires the state board of education to prescribe progressively advanced minimum reading levels for grades 2 through 12 and to provide a proficiency test for entry into grades 3 through 8 to determine grade-to-grade promotions.

MASSACHUSETTS

The Advisory Committee on High School Graduation Requirements has made a preliminary report to the state board of education, outlining six basic skill areas in which students should be tested before graduation. The board feels that testing should be required in communication and computational skills and that the areas of career knowledge, social responsibility, environment, and culture be tested at the discretion of local school districts. Test specifications and test construction will be decided upon. Action by the board is expected in April of 1977.

Local District

Fitchburg. The Fitchburg School Committee has established Project Competency to coordinate assessment of life skills. Various types of measurement approaches will be developed and field tested to assess third, sixth, and ninth graders.

MICHIGAN

A criterion-referenced testing program based on competency goals established by the state department of education has been in operation for several years. Test results are made available to school districts. The SDE also works with teacher education institutions in preparing teachers to conduct instruction geared to the state's established minimum competency goals.

MICHIGAN (Cont'd)

An advisory committee is considering use of a bank of items and objectives in basic skills for local school districts. The state board of education has proposed a 12th grade minimal competency test in life skills. Statewide hearings will be conducted in early 1977 to consider the test.

Local Districts

Bellevue Community Schools are exploring development of a basic skills test for 8th graders and for graduating seniors as a requirement for graduation.

Lansing School District has begun preliminary work on determining standards for basic skills and methods of assessment, at junior and high school levels.

Lawton Community Schools are interested in tests for grade-level promotions.

Livonia Public Schools are exploring development of a basic skills test for 8th graders and for graduating seniors as a requirement for graduation.

MINNESOTA

Interest has been expressed in basic skills assessment, especially for grades 1, 3, and 7. Legislation requiring a reading and writing test for grade promotion is being considered.

Bill HF1997 requires school districts to set objectives, evaluate student progress, and report to the community.

Local Districts

Minneapolis. Under the Accountability Project Advisory Board, the Basic Skills Committee reviewed the Minneapolis public schools' instructional programs in the basic skills and made recommendations to the board of education in 1974. These recommendations for basic skills testing form the basis for present interest.

St. Paul. The school board is considering appointing a task force of administrators, teachers, students, and parents to study the feasibility of adopting a competency requirement for high school graduation.

White Bear Lake has a basic skills requirement for graduation.

The Mid-State Educational Cooperative is developing 23 minimum competency requirements, among them some on the basic skills of reading, writing, math, and life skills.

MISSISSIPPI

Local Districts

De Soto County is interested in developing evaluation instruments for assessment of the basic skills at the secondary level.

Drew School District introduced competency requirements for grade promotion.

MISSOURI

At the request of the state board of education, the department of elementary and secondary education developed the Missouri Basic Essential Skills Test, a competency test to certify a minimum skill level among its high school graduates. Three forms of the test will be pilot tested in the spring of 1977 among 8th graders and will be ready for use in the 1977 school year. After July 1, 1978 all Missouri public school students will be required to take the test at the end of 8th grade. Students not passing the test will have several opportunities to take it.

The SDE will determine possible mandatory use of the test for high school graduation after the field tests and pilot programs of the test are completed.

NEBRASKA

Elementary and secondary schools are required to establish a minimum performance level in reading, writing, and arithmetic. Schools must readminister the test until mastery has been demonstrated by all students. An evaluation instrument is available from the SDE for schools wishing to use it.

Local District

Westside Community Schools (District 66) are currently using an outcome evaluation study with some reference to basic skill areas.

NEVADA

The superintendent of public instruction has appointed (November 1976) an Advisory Commission for a Competency Based High School Diploma Program to advise the SDE in the selection of competency criteria in reading, writing, and arithmetic.

NEW JERSEY

A.1736. The original bill, passed in 1975, called for the state to set minimum reading and mathematics standards and for local districts to provide remedial work. Under the amendments, local districts may set lower interim goals and assess students' progress toward those goals. The state board of education adopted regulations requiring local school districts to establish minimum proficiency standards in basic skill areas and provide remediation for children needing it.

The Task Force on Competency Indicators and Standards recommended using the present statewide testing program in 1976-77 to implement basic skills minimum standards. However, the task force advised that new tests be developed to measure basic skills or the state Educational Assessment Program be redesigned to measure both curriculum achievement and minimum basic skills. An advisory committee is coordinating the activities of eight working committees focusing on key areas involved in the basic skills/minimum standards effort. Basic skills tested at different grade

NEW JERSEY (cont'd)

levels will be reviewed, a list of recommended basic skills objectives will be submitted to the Commissioner and the State Board, and basic skills test items will be reviewed for validity.

Local District

Delaware Valley Regional High School is considering a high school level basic skills test.

NEW MEXICO

The state department of education will appoint a Task Force to assist the SDE in developing a plan for improving teaching of basic skills and set levels of attainment, to be evaluated at certain checkpoints. The final checkpoint will be a graduation requirement. A certificate would be a possible alternative to a diploma for those who do not pass 12th grade evaluation. Remedial work would be provided.

NEW YORK

The board of regents approved (May 1976) a resolution establishing the passing of basic competency tests in reading and mathematics as a requirement for receipt of a high school diploma, beginning with the graduating class of June 1979. Students will be tested at the 9th grade level; those passing the test at that point will be considered as having satisfied that portion of the high school graduation requirements. Consideration is being given to incorporating three additional tests into the graduation requirements, effective in June 1980. The three additional tests would be in the areas of (1) civics and citizenship, (2) practical science, including health and drug education, and (3) writing and language skills. These tests were administered to 9th graders in October 1976; pretesting will take place in June 1977.

Local Districts
Mamaroneck Public Schools are developing criterion-referenced tests to evaluate the effectiveness of the new basic skills programs.
New York City Board of Education is developing minimum performance standards. The school system is considering raising the reading requirement for high school graduation from the present 8th grade level to 9th grade.

NORTH DAKOTA

HB 1460 recently introduced, would prescribe high school diplomas and allow diplomas to indicate completion of an optional proficiency test.

OHIO

SB170, passed in 1975, mandates assessment (matrix sampling) in the schools, using instruments developed by the state education department. In March/April 1977 the tests will involve reading tests for grades 4, 8, 12, and math and English composition tests. HB6, recently introduced, specifies that the state administer competency-based tests in grades 3, 6, 9, and 11.

OHIO (cont'd)

Local Districts

Cincinnati. A citizens' task force is considering basic skills and their assessment. The use of examination for grade-to-grade promotion or at selected points is being considered.

Columbus. The superintendent has proposed basic skills assessment to the school board.

Dayton. A 9th grade testing program is in operation. The school district is working on a basic skills requirement for the 11th and 12th grades.

Mentor Public Schools. The Board of Education requires successful completion of competency exams in the basic skills as a high school graduation requirement.

OREGON

The state board of education in 1972 established a new high school graduation policy requiring school districts to ensure that minimum standards in locally defined measurable competencies, in addition to course credit and other requirements, were met by their graduating seniors, beginning with the class of 1978. The 1974 revised "Oregon Minimum Standards for Public Schools" extended the concept of competency-based education to elementary and junior high schools. Revisions in 1976 require school districts to verify that students have minimal competencies only in the basic skills in order to receive a high school diploma. Districts will assess the reading, writing, and computing skills in three programs of their choice beginning with the class of 1978. Assessments in additional areas, as identified by local districts, will be required by 1981. Districts may choose to use the areas of personal development, social responsibility, and career development, or may develop their own.

The Northwest Regional Evaluation Association is developing an item bank for assessing minimum graduation standards, created in the Portland Public Schools and three surrounding counties.

PENNSYLVANIA

As part of an overall plan to review the quality of education in the state, the state board of education has developed Project 81. Under Project 81, goals of education are being redefined. School programs will be revised to reflect those goals, and new requirements will be set for graduating students. Such requirements will be based on evidence of minimum competencies in basic skills in four life roles, in addition to courses taken, credits, and Carnegie units. Twelve model districts have been selected to work with the state in this effort. Project 81 states that by 1978-79 the model districts will revise graduation requirements and implement a revised assessment program. The state board of education will revise curriculum regulations, based on the work of the 12 model districts and the department of education.

Revisions are being made in the statewide assessment--an enlarged test for verbal and math areas, and a new test in written expression, with emphasis on reading comprehension and computational and problem-solving areas.

PENNSYLVANIA (Cont'd)

Local District

Lancaster school district has developed an Applied Basic Skills program.

Philadelphia School District administered a test of functional literacy to public high school seniors in October 1976. The board of education plans to test for basic skills.

RHODE ISLAND

The Statewide Assessment Program eventually will be based on performance indicators. The state has developed basic skills and performance indicators with the expectation that assessment will be devised at the local level. State regulations for the Local Planning Assessment Program (LPAP) will be used on a provisional basis in 1977.

The state is interested in constructing objective-based tests and is exploring the possibility of generating an extensive data bank geared to state instructional objectives relating to basic skills.

Local District.

The Alternative Learning Project in Providence involves minimal competency activity.

TEXAS

The state board of education adopted, in March 1975, long-range objectives pertaining to "attainment of essential knowledge, skills, and competencies" in reading and math to be required of high school graduates. Minimal reading and math competencies have been formulated by the Texas Education Agency and the 20 regional education service centers, following a series of meetings with lay representatives and educators. Several plans for implementation of a basic skills program will be considered by the state legislature in 1977.

VIRGINIA

The state has mandated minimum competency requirements for several levels and graduation. Under HB 256 (Standards of Quality Act), each school division is to give instructional priority to developing the reading, communications, and mathematics skills of all students, with particular attention to the primary grades (K-3) and the intermediate grades (4-6). Remedial work for low-achieving students will be provided.

By September of 1978, the state board of education, in cooperation with local districts, will be required to establish specific minimum statewide educational objectives and a uniform statewide test in reading, communications and mathematics skills. By July 1, 1978, students will be required to demonstrate functional literacy in those skills for high school graduation.

Local District.

Greenville County has adopted minimum graduation standards.

WASHINGTON

SB 3026. Requires that school districts, with community participation, will develop learning objectives for grades kindergarten through eight. The state department has interpreted that these objectives will be stated in behavioral terms and that the objectives will be measured for actual student attainment at least annually.

HB 1345, 1976. Requires that all fourth grade students be given a standardized achievement test in the reading, mathematics, and language arts for purposes of district, state, and national level comparison. A sample of 3,000 students at the eighth and eleventh grades will be tested for the same purpose. The school districts are encouraged to establish a separate test for the second grade for the early identification of pupils needing assistance in language and computational skills.

WISCONSIN

State Department of Education. The state superintendent has appointed a "blue ribbon committee" to study minimal standards for local districts and make recommendations on the department of public instruction's role in competency based education.

Local Districts

Manitowoc Public School District has adopted a proficiency testing requirement.

Sparta and Milwaukee schools are also working on minimal competency requirements.

REFERENCES RELATING TO MINIMAL COMPETENCY TESTING

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8. Minimal Competency Testing Conference Report. Denver: Education Commission of the States, 1976.
9. Report of the California Commission for Reform of Intermediate and Secondary Education, L.B. Newcomer, Ch. Sacramento: California State Department of Education, 1975.
10. The Need for Statewide Minimum Competencies in a Thorough and Efficient Educational System. A report of the New Jersey Education Reform Project. Newark: New Jersey Education Reform Project, 1976.

DESCRIPTIONS OF SOME AVAILABLE MEASURES

Adult Performance Level Program; c1976; Grade 9-Adults; The American College Testing Program (P.O. Box 168, Iowa City, Iowa 52240).

This program is concerned with those coping skills and knowledge areas necessary for an individual's functional competency. The APL Survey is designed to diagnose and evaluate those competencies critical to adult functioning in society. It focuses on the application of basic skills (identification of facts and terms, reading, writing, computation, problem solving) in five content areas (community resources, occupational knowledge, consumer education, health, government, and law). The survey is available in adult and high school forms. In-depth tests in the five content areas are being prepared.

Basic Skills Assessment Program; c1977; Grades 8-12; Educational Testing Service, (Rosedale Road, Princeton, NJ 08540).

This program is being developed cooperatively by Educational Testing Service and a consortium of school districts. It is designed to assist the teacher in helping students gain mastery of the basic skills of reading, writing, and mathematics. Secondary schools can use the program to decide whether students have sufficient basic skills mastery to meet the requirements for high school graduation, or in general to be able to cope with the demands of society. The tests are designed to be administered in the 8th or 9th grade to aid in the identification of students who should receive additional instruction in the basic skills.

Secure examinations, in reading, mathematics, and writing, focus on the application of skills to important real-life situations. An optional direct measure of writing is available with the writing test.

The first operational administration of the Basic Skills Assessment will be in May 1977.

Test of General Educational Development; c1944-Present; Adults; American Council on Education (One Dupont Circle, Washington, DC 20036).

The primary aim of the test of GED is to assess the educational development of adults who have not completed their formal high school education. Through achievement of satisfactory scores, adults may earn a high school equivalency certificate, qualify for admission to more advanced education, meet educational requirements for employment or promotion, satisfy educational qualifications for induction into the Armed Services, and meet regulations of state and local boards of licensing examiners for admission to licensing examinations. GED is a battery of five comprehensive examinations: Correctness and Effectiveness of Expression, Interpretation of Reading Materials in the Social Sciences, Interpretation of Reading Materials in the Natural Sciences, Interpetation of Literary Materials, and General Mathematical Ability. Tests are available in English, Spanish, and French.

An ETS Information Report:

BASIC SKILLS ASSESSMENT AROUND THE NATION
(Interim Update)

In February, 1977, Educational Testing Service compiled and published a comprehensive report on various federal, state, and local school district activities relating to minimum standards and basic skills assessment. The information contained in this packet is an interim update of that report. A complete revised issue of Basic Skills Assessment Around the Nation will be published in September, 1977.

This update describes activities that are very much part of a continuing process, subject to change and modification. Legislation indicated as being in committee may not have been reported out or may still be pending. In other cases it may have been signed into law. With that caution, the information in this report should prove useful as an indication of the broad range and variety of activities related to basic skills occuring at the state and local level across the nation.

ETS Information Division, which compiled this report, acknowledges the provision of invaluable data by Chris Pipho of the Education Commission of the States, Denver, Colorado.

Activities at the Federal Level

1. HR 6088, introduced by Ronald L. Mottl in April 1977, would require State educational agencies to "establish basic standards of educational proficiency applicable to secondary school students." Students would be required to pass a proficiency examination in reading, writing, and arithmetic in order to graduate. The bill would also establish a National Commission on Basic Education, representing state and local education, with authority to review and approve plans submitted by state educational agencies for the establishment of specific standards.

2. Assistant Secretary for Education, Mary Berry, on July 14 recommended that her office and the National Institute of Education develop a voluntary standardized national basic skills competency test, measuring reading, writing and arithmetic at various grade levels. The new recommendation was made at a hearing before the Senate education subcommittee, where Senator Claiborne Pell and Admiral Hyman Rickover both expressed strong support of a national standardized test. Rickover has for many years advocated a national test to measure specific minimum competency requirements for various grade levels starting in the early elementary grades. Berry expressed concern, however, that problems connected with such a test exist and must be dealt with.

June 1977

Activities at the State and Local District Level

ALABAMA

SB 79 would require local school boards to develop, by June 1978, standards of proficiency to evaluate student progress in the performance of academic and basic skills. The state department of education would assist local boards of education in developing examples of minimal academic standards for graduation including performance indicators. After June 1980, students would be required to demonstrate proficiency in the basic skills in order to graduate. The bill will be considered in the next legislative session.

ALASKA

Local District
Craig Alternative School is conducting minimal competency activities. North Slope, Galena, Adak, and Southwest Region School Districts are working on designing competency-based curricula.

ARIZONA

As of January 1, 1976, the state board of education required school districts to certify that 8th grade graduating students are able to read, write, and compute at the 6th grade level. Students graduating from high school must demonstrate proficiency in those skills at the 9th grade level.

H2160 would require the state school superintendent and the state board of education to develop a statewide standard testing program for grades 1-12. The results of the tests would be correlated to individual pupils' class sizes, teachers, teachers' experience and salaries. The state board of education would also be mandated to divide class time of 2nd - 6th grades into specific "verbal and quantitative segments."

CALIFORNIA

The California High School Proficiency Test, covering the basic skills of reading, math and computation skills, and consumer economics, is administered to 16- and 17-year-olds. Those who pass receive a proficiency certificate legally equivalent to a high school diploma and may leave high school with parent permission. The test is administered three times a year. In 1976, SB 1502, Ch. 315, opened the California High School Proficiency Examinations to any persons 16 years of age or over, or to anyone who has been enrolled in the 10th grade for one or more academic years.

School districts that operate high schools are required to adopt assessable graduation standards of proficiency in the areas of reading, writing, and computation by June 1978, and to assess student progress toward these standards once during grade 7 through 9 and twice between grades 10 and 11. (AB 3408, September 1976.)

CALIFORNIA (cont'd)

AB 357 would require elementary school districts by June 1, 1979, to adopt standards of proficiency in the basic skills. This bill would have students tested at least twice during the fourth through sixth grades and at least once from sixth through eighth grades. Conferences between pupil/parent/principal/teachers would be required if the pupil falls short of the standards.

The district must provide, for those students who do not meet district standards, a diagnostic and prescriptive remedial instruction conference or alternative ways of satisfying the district's course of study. After June 1980, students who do not meet these standards will not receive a high school diploma.

Local District

Los Angeles. Beginning in June of 1979, the Los Angeles Unified School District will require its graduating seniors to pass the Senior High Assessment of Reading Proficiency (SHARP) test in order to receive a diploma. Students will have up to four opportunities to pass the test; remedial instruction will be provided. Announcement of the SHARP test by the district has generated considerable interest by other districts.

COLORADO

No special proficiency testing is required by the state beyond regular requirements for graduation from the 12th grade. Local school districts are free to impose such tests, but must fulfill certain conditions if they choose to do so.

Local District

The Denver Public Schools administer their own minimum competency tests for high school graduation, have done so since 1962. The tests cover reading, spelling, math, and language mechanics. Remedial instruction is provided for those who do not pass the tests.

CONNECTICUT

A Statewide Advisory Committee for Proficiency Testing appointed by the state department of education is studying recommendations on developing a high school equivalent competency-based certificate. A final report to the board focused primarily on equivalency testing involving the possible use of the APL (Texas) and the GED measures. The committee will continue for a year's time.

DELAWARE

The state department of education is developing a list of general competencies to be used as a prerequisite for high school graduation, as required by the state board of education in its resolution of December 1976. Some exploratory work is being done, using the Adult Performance Level materials. The department of education expects that it will have a plan for competency based education for 9th grade.

DISTRICT OF COLUMBIA

A competency-based curriculum has been developed by the superintendent and approved by the board in October 1976. The program includes pre- and post-testing at each grade level. Newly revised board of education rules specify satisfactory achievement of competency at the required skill level for grade promotion.

FLORIDA

CSSB 107 (1976) mandates competency requirements based on mastery of basic skills and functional literacy. Programs of pupil progression based upon performance are required as of July 1, 1977, tied to local goals and objectives. Performance in basic skills will be stressed (on statewide tests) before students may progress from grades 3, 5, 8, and 11.

By the 1978-79 school year, school districts must establish standards for high school graduation, to include mastery of basic skills and satisfactory performance in functional literacy, in addition to the number of credits required by the district school board. Each district is required to provide remediation for students needing it. Alternative diplomas must be awarded to those students unable to meet the standards prescribed.

HB 203 would permit school districts to conduct dismissal hearings for instructional personnel for failure to teach students to reach state minimum performance standards.

Local Districts

Duval County, Jacksonville. High school seniors will take a test of functional literacy.

West Palm Beach. The school board requires all high school juniors to take the Adult Performance Level test. Satisfactory performance on this test will become a graduation requirement, beginning with the class of 1978.

Broward County, Polk County. Both counties are developing K-12 performance standards.

GEORGIA

The state department of education has a statewide criterion-referenced testing program for the 4th, 8th, and 10th grades. The tests, which are diagnostic, provide an individual profile in 20 basic skill areas. The state board of education is investigating the possibility of changing high school graduation requirements to include minimal proficiency standards for the life role skills, including specific recommendations for the student as the learner, the individual, the citizen, the consumer, and the producer. The recommendations are modeled after the Oregon high school graduation requirements. At the request of the state board, the department of education is conducting a major redesign of the Georgia School Standards, the first such major overhaul since the Standards were first administered.

Local District.

Clarke County School District will require proficiency in the basic skills to graduate, beginning with the graduating class of 1980. The school district is exploring the use of a minimum competency requirement for grade-to-grade promotion.

HAWAII

Local District
The Kamehameha Schools (private) are conducting a curricular revision study that will investigate minimal competency structures and their influence on actual instructional programs.

IDAHO

The Idaho State Board of Education adopted new graduation requirements, in February 1977, and a proficiency program, optional to school districts, that measures competency in reading, writing, arithmetic and spelling prior to high school graduation. Participating districts will be required to give the test beginning in the ninth grade and to provide remedial work for those students who do not pass. Students in participating districts will graduate with a diploma bearing the state board of education seal. Other students will receive certificates of attendance or a plain diploma.

ILLINOIS

The department of education is exploring the use of some form of minimum competency testing in basic skills and is considering developing a bank of objectives and items for use by school districts.

HB 1364 would require the successful passage of reading, writing and mathematics proficiency tests as a condition for high school graduation.

Local Districts
Chicago. The Board of Education is moving toward setting standards for high school graduation. Pilot examinations have been prepared and administered. A study is being done to determine an effective functioning level, involving young adults performing satisfactorily on the job, as a validation effort.
Peoria Public School District is developing a minimum competency examination for high school graduation, beginning with the graduating class of 1979.

INDIANA

Local District
Gary. The board of education has adopted proficiency standards for high school graduation, effective in 1977. Proficiency in the basic skills of writing, reading, math, and oral communication will be required. In the fall of 1976 and in June 1977, Gary high school students wrote essays for the purpose of identifying students needing remedial help in writing. Centralized scoring of these examinations was conducted by Gary teachers with the assistance of Educational Testing Service.

IOWA

SF 252 would require all students to pass tests in reading, writing, and mathematics in order to graduate. The program would begin in July 1980.

Local District
Metro High School, Cedar Rapids, is involved in minimal competency activity.

KANSAS

HB 2139 would require local boards of education to adopt standards and prescribe an examination for proficiency in the basic educational skills. After June 30, 1981, the state board of education would certify that high school graduates have met the state "basic educational skills" standards. Students not meeting the standards will be certified as having completed attendance in a four-year course of study.

Prior to July 1, 1978, the state board of education, in cooperation with the state board of regents, would determine and establish standards of proficiency in academic skills (also a standardized examination) for students preparing for admission to state colleges and universities.

SB 268. The state board of education would be required, prior to July of 1978, to adopt standards of proficiency in the basic skills for graduation from high school. The state would prescribe a standardized examination and set standards of proficiency; local boards would administer the test and certify to the state those students passing the test. The proficiency examination would be administered twice each year.

KENTUCKY

Interest has been expressed in minimal competency in basic skills as a requirement for high school graduation. The State Board of Education has instructed the State Department of Education to make a study of competency based education and minimal requirements for high school graduation. The use of the GED test for high school equivalency is being investigated.

LOUISIANA

The State Board of Education will include, at the request of the State Department of Education, a study of minimal competency testing within the development of a state master plan for education.

MAINE

Legislative document #1810, an act to establish assessment of student performance in the basic skills, directs the Commissioner of education to study the whole question of basic competency testing. The Commissioner will administer a basic competency test to all high school juniors in the fall of 1977. The Commissioner is directed to prepare appropriate assessment materials. A citizens' committee will study the question, review the procedures and will report back to the legislature by January 1978.

LD 734 Basic Attainment of Skills in Children Act would provide for a program of basic skills. Mastery of certain skills, along with the successful completion of courses and teacher recommendations, would be requirements for high school graduation. (Pending)

The Commissioner of Education and Cultural Services conducted a series of statewide meetings to obtain a consensus of what Maine citizens feel "should be a partial condition for graduation from secondary school." For the State Department of Education, committees of educators are formulating basic competencies in reading, writing, and mathematics.

MARYLAND

The state department of education has developed the Maryland basic mastery test for reading, administered in 6th, 9th, and 12th grades. This "survival reading test" is also being administered in the fall of each school year to grades 7 and 11 as part of the statewide accountability program. The state board of education and staff of the department of education are in the process of developing a second basic mastery area, mathematics. Under Project Basic, approved by the State Board of Education in January 1977, the state prescribes progressively advanced minimum performance reading levels for all grades.

HB 1462 specifies that students in grades three, seven, and nine through eleven (previously two through seven) who have not met "either a minimum grade level competency" or the minimum reading level prescribed by the state board for the previous grade shall be retained in the current grade or enrolled in a reading assistance program "as part of his or her instructional program."

MASSACHUSETTS

HB 3284. The state board of education would develop examinations for testing competency in the areas of mathematics, social studies, science, English/literature, language, and business. The tests would be reviewed each year and administered at the end of ninth, tenth and eleventh grades. The state board of education would establish passing scores for each test and determine standards for a high school diploma issued by the state.

The Advisory Committee on High School Graduation Requirements has made a preliminary report to the state board of education, outlining basic skill areas in which students should be tested before graduation. The Board approved the report and has set up an official committee to conduct hearings relating to basic skills testing, including mathematics and communications skills.

Local District

Fitchburg. The Fitchburg School Committee has established Project Competency to coordinate assessment of life skills. A skills achievement monitoring system is being used to help teachers keep track of student progress in the basic skills.

MICHIGAN

A criterion-referenced testing program based on competency goals established by the state department of education has been in operation for several years. Test results are made available to school districts. The SDE also works with teacher education institutions in preparing teachers to conduct instruction geared to the state's established minimum competency goals.

An advisory committee is considering use of a bank of items and objectives in basic skills for local school districts.

The State Board of Education has proposed a 12th grade minimal competency test in life skills.

MICHIGAN (Cont'd)

Local Districts

Bellevue Community Schools are exploring development of a basic skills test for 8th graders and for graduating seniors as a requirement for graduation.

In March a committee of the High School Parent Council in East Lansing recommended increased requirements and thorough pre-graduation testing in English, math, science, and social studies. It further recommended a minimum reading level of tenth grade for a diploma.

Lansing School District is working on standards for basic skills and methods of assessment, at junior and high school levels.

Lawton Community Schools are interested in tests for grade-level promotions.

Livonia Public Schools are exploring development of a basic skills test for 8th graders and for graduating seniors as a requirement for graduation.

MINNESOTA

Interest has been expressed in basic skills assessment, especially for grades 1, 3, and 7. Legislation requiring a reading and writing test for grade promotion is being considered.

Local Districts

Minneapolis. Under the Accountability Project Advisory Board, the Basic Skills Committee reviewed the Minneapolis public schools' instructional programs in the basic skills and made recommendations to the board of education in 1974. These recommendations for basic skills testing form the basis for present interest.

St. Paul. The school board is considering appointing a task force of administrators, teachers, students, and parents to study the feasibility of adopting a competency requirement for high school graduation.

White Bear Lake has a basic skills requirement for graduation.

The Mid-State Educational Cooperative is developing minimum competency requirements, among them some on the basic skills of reading, writing, math, and life skills.

Pending:

HF 44 provides that the Commissioner of Education, prior to June 30, 1978, shall establish desirable minimum standards of reading achievement for pupils completing grades 3, 6, 9, and 12. The bill would also give funding to the state department of education for the development and dissemination of tests and for teachers and consultants.

HF 118 provides for a statewide program of assessment of minimal competency in reading, math, language arts and other general subject areas. It would also provide for a program of remedial aid for the 25 percent of the students who have the greatest need.

MISSISSIPPI

Local Districts

De Soto County is interested in developing evaluation instruments for assessment of the basic skills at the secondary level.

Drew School District introduced competency requirements for grade promotion.

MISSOURI

At the request of the state board of education, the department of elementary and secondary education developed the Missouri Basic Essential Skills Test, a competency test to certify a minimum skill level among its high school graduates. Three forms of the test were pilot tested in the spring of 1977 among 8th graders and will be ready for use in the 1977 school year. After July 1, 1978 all Missouri public school students will be required to take the test at the end of 8th grade. Students not passing the test will have several opportunities to pass the test.

The SBE will determine possible mandatory use of the test for high school graduation after the field tests and pilot programs of the test are completed.

NEBRASKA

Elementary and secondary schools are required to establish a minimum performance level in reading, writing, and arithmetic. Schools must readminister the test until mastery has been demonstrated by all students. An evaluation instrument is available from the SDE for schools wishing to use it.

Local District

Westside Community Schools (District 66) are currently using an outcome evaluation study with some reference to basic skill areas. The first senior class to take minimum competency tests was graduated in June.

NEVADA

The superintendent of public instruction appointed (November 1976) an Advisory Commission for a Competency Based High School Diploma Program to advise the SDE in the selection of competency criteria in reading, writing, and arithmetic.

Assembly Bill 400, mandating competency-based testing in Nevada schools, became law July 1, 1977. The Nevada State Board of Education has been working on a Competency-Based High School Diploma Program since January 1976.

The bill requires the testing of students prior to the completion of the third and sixth grades during the next school year. Other dates for standard proficiency examinations are: Grades three, six and nine, 1978-81; and grades three, six, nine and 12, 1981-82 and thereafter.

The State Board of Education has directed the Department of Education staff to complete a detailed analysis of the provisions of A.B. 400 to be reviewed by the Legislative Council Bureau. Department of Education staff will make recommendations in the process of developing minimum competency measurement instruments.

Twelfth-grade students will not be involved until 1982. Minimum competency examinations in arithmetic, reading and writing should be available for use no later than the 1979-80 school year.

NEW JERSEY

A.1736. The original bill, passed in 1975, called for the state to set minimum reading and mathematics standards and for local districts to provide remedial work. Under the amendments, local districts may set lower interim goals and assess students' progress toward those goals. The state board of education adopted regulations requiring local school districts to establish minimum proficiency standards in basic skill areas and provide remediation for children needing it.

An advisory committee is coordinating the activities of eight working committees focusing on key areas involved in the basic skills/minimum standards effort. New minimum basic skills tests in reading and mathematics will be administered to grades 3, 6, 9 and 11 in April of 1978. This program will replace the New Jersey Educational Assessment Program.

A committee created by the State Board of Education is examining current statewide requirements for high school graduation.

Local District

Delaware Valley Regional High School is considering a high school level basic skills test.

NEW MEXICO

A Task Force will assist the SDE in developing a plan for improving teaching of basic skills and setting levels of attainment, to be evaluated at certain checkpoints. The final checkpoint will be a graduation requirement. A certificate would be a possible alternative to a diploma for those who do not pass 12th grade evaluation. Remedial work would be provided.

NEW YORK

The board of regents approved (May 1976) a resolution establishing the passing of basic competency tests in reading and mathematics as a requirement for receipt of a high school diploma, beginning with the graduating class of June 1979. Students will be tested at the 9th grade level; those passing the test at that point will be considered as having satisfied that portion of the high school graduation requirements.

Three additional tests were incorporated into the graduation requirements effective in June 1980, in the areas of (1) civics and citizenship, (2) practical science, including health and drug education, and (3) writing and language skills. The state has developed a new Basic Competency Test in Writing Skills which all students must pass to obtain a high school diploma.

The new writing skills test was first administered in October 1976, and will be administered again in January and June of 1978. Schools having students who fail the new skills test will be given remedial work.

Local District

Mamaroneck Public Schools are developing criterion-referenced tests to evaluate the effectiveness of the new basic skills programs.

NEW YORK (cont'd)

New York City. The Board of Education is developing minimum performance standards. The school system is considering raising the reading requirement for high school graduation from the present 8th grade level to 9th grade. A special pilot program in basic writing skills will begin at the tenth grade level at 15 public high schools and six nonpublic high schools in September 1977. The program, designed to encourage and improve the expository writing skills of the secondary level students, is titled WEDGE (Writing Every Day Generates Excellence).

NORTH CAROLINA

Pending: S DRS4507, a bill that would provide for a high school graduation competency test. The Governor, upon recommendation of the State Superintendent of Public Instruction would appoint a Competency Test Commission on or before July 1, 1977. After the adoption of tests and minimum graduation standards by the State Board of Education tests would be administered to all eleventh grade students in the public schools in the spring of 1979. Students who fail to attain the required minimum standard for graduation in the eleventh grade would be given additional opportunities to take the test in the twelfth grade.

NORTH DAKOTA

HB 1460 would prescribe high school diplomas and allow diplomas to indicate completion of an optional proficiency test.

OHIO

S3170, passed in 1975, mandates assessment (matrix sampling) in the schools, using instruments developed by the state education department. The tests involve reading tests for grades 4, 8, 12, and math and English composition. HB6, recently introduced, specifies that the state administer competency-based tests in grades 3, 6, 9, and 11.

Local Districts

Cincinnati. A citizens' task force is considering basic skills and their assessment. The use of examination for grade-to-grade promotion or at selected points is being considered.

Columbus. The superintendent has proposed basic skills assessment to the school board.

Dayton. A 9th grade testing program is in operation. The school district is working on a basic skills requirement for the 11th and 12th grades.

Mentor Public Schools. The Board of Education has required successful completion of competency exams in the basic skills as a high school graduation requirement.

OREGON

The state board of education in 1972 established a new high school graduation policy requiring school districts to ensure that minimum standards in locally defined measurable competencies, in addition to course credit and other requirements, were met by their graduating seniors, beginning with the class of 1978. The 1974 revised "Oregon Minimum Standards for Public Schools" extended the concept of competency-based education to elementary and junior high schools.

Revisions in 1976 require school districts to verify that students have minimal competencies in the basic skills in order to receive a high school diploma. Districts will assess the reading, writing, and computing skills in 3 programs of their choice beginning with the class of 1978. Assessments in additional areas, as identified by local districts, will be required by 1981. Districts may choose to use the areas of personal development, social responsibility, and career development, or may develop their own.

An Educational Development Resource Center has been set up to provide districts with assistance in implementing the competency-based requirements.

PENNSYLVANIA

As part of an overall plan to review the quality of education in the state, the state board of education has developed Project 81. Under Project 81, goals of education are being redefined. School programs will be revised to reflect those goals, and new requirements will be set for graduating students. Such requirements will be based on evidence of minimum competencies in basic skills in four life roles, in addition to courses taken, credits, and Carnegie units. Twelve model districts have been selected to work with the state in this effort. Project 81 states that by 1978-79 the model districts will revise graduation requirements and implement a revised assessment program. The state board of education will revise curriculum regulations, based on the work of the 12 model districts and the department of education.

Revisions are being made in the statewide assessment program--an enlarged test for verbal and math areas, and a new test in written expression, with emphasis on reading comprehension and computational and problem-solving areas.

Local District

Lancaster school district has developed an Applied Basic Skills program. Philadelphia School District administered a test of functional literacy to public high school seniors in October 1976. The board of education plans to test for basic skills. Philadelphia is one of several hundred school districts in the U.S. and Canada working cooperatively on the development of a program for basic skills assessment.

RHODE ISLAND

The Statewide Assessment Program eventually will be based on performance indicators. The state has developed basic skills and performance indicators with the expectation that assessment will be devised at the local level.

RHODE ISLAND (cont'd)

State regulations for the Local Planning Assessment Program (LPAP) are being used on a provisional basis in 1977.

The state is interested in constructing objective-based tests and is exploring the possibility of generating an extensive data bank geared to state instructional objectives relating to basic skills.

Local District.
The Alternative Learning Project in Providence involves minimal competency activity.

TEXAS

The state board of education adopted, in March 1975, long-range objectives pertaining to "attainment of essential knowledge, skills, and competencies" in reading and math to be required of high school graduates. Minimal reading and math competencies have been formulated by the Texas Education Agency and the 20 regional education service centers, following a series of meetings with lay representatives and educators. Several plans for implementation of a basic skills program will be considered by the state legislature in 1977.

UTAH

The State Board of Education adopted a new policy that requires students to meet minimum standards of achievement including demonstration of competency in some subjects in order to graduate from high school.

VERMONT

In July 1976, the state board of education approved a list of 51 competencies that will be required for a high school diploma beginning with the class of 1981. The list covers reading, writing, speaking, listening, and mathematics. Testing is not mandated. School districts are in the process of implementation.

VIRGINIA

The state has mandated minimun competency requirements for several levels and graduation. Under HB 256 (Standards of Quality Act), each school division is to give instructional priority to developing the reading, communications, and mathematics skills of all students, with particular attention to the primary grades (K-3) and the intermediate grades (4-6). Remedial work for low-achieving students will be provided.

By September of 1978, the state board of education, in cooperation with local districts, will be required to establish specific minimum statewide educational objectives and a uniform statewide test in reading, communications and mathematics skills. After July 1, 1978, students will be required to demonstrate basic competency in those skills for high school graduation.

VIRGINIA (cont'd)

Guidelines are being prepared to help school divisions meet the high school graduation competencies.

Local District.
Greenville County has adopted minimum graduation standards.

WASHINGTON

The question of minimal competency testing is being given consideration by the state department of education.

WEST VIRGINIA

Local District
Kanawha County, Charleston has several committees studying minimal competency issues.

WISCONSIN

State Department of Education. The state superintendent has appointed a "blue ribbon committee" to study minimal standards for local districts and make recommendations on the department of public instruction's role in competency based education.

Local Districts
Manitowoc Public School District has adopted a proficiency testing requirement.
Sparta and Milwaukee schools are also working on minimal competency requirements.

Educational Testing Service
Princeton, N.J. 08540

July 27, 1977

REPORT OF NEW TESTS AND SERVICES DESIGNED TO ASSIST EDUCATIONAL AGENCIES IN TITLE I EVALUATION

The following is an overview of new tests and services reported by test publishers of the eight commonly used, nationally normed tests.

California Achievement Test (CTB/McGraw-Hill). The publisher is planning to prepare NCEs for CAT/A and B. New test forms have been developed: CAT/C/D for grades K-12. Form C is scheduled for publication in Fall 1977 and Form D in Spring 1978. Tests have been designed to combine characteristics of norm-and criterion-referenced tests. The Locater Test may be utilized to assign students of varying abilities to appropriate test levels. National norms were established for CAT/C by a stratified random-sampling procedure.

Comprehensive Test of Basic Skills. (CTB/McGraw-Hill). There has been a 1975 expanded test edition which will be ready in Spring. Group NCEs will be provided in the new technical bulletin to be published in Spring 1977 and individual NCEs will be available in Fall 1977.

Gates-MacGinitie Reading Tests. (Teachers College Press). The publisher is in the process of completely revising the test. It will have fall and spring norms and will be available in January or Spring, 1978.

Iowa Tests of Basic Skills. (Houghton-Mifflin). Publisher has developed empirical Spring norms to provide fall to spring testing. New services include NCE scores and Title I evaluation to begin in Spring 1977. Also, the publisher has revised the Nelson Reading Skills Test for grades 3-9. Test was standardized in 1976 and has empirical fall and spring norms. The publisher will provide NCE scores.

*Metropolitan Achievement Test. (Psychological Corporation/Harcourt, Brace, Jovanovich). The publisher has established a task force to keep track of developments in the area of Title I evaluation and to determine what interpretative aids are needed to be developed for Title I people. The task force is investigating the compatibility of each of the publisher's major achievement series with the RMC models. The task force is also analyzing data services provided in light of the requests the publisher is most likely to receive from users.

*Stanford Achievement Test. (Psychological Corporation/Harcourt, Brace, Jovanovich). The publisher reported that the newly published Stanford Diagnostic Reading and Mathematics Tests were apparently finding wide use for Title I evaluation.

SRA Achievement Series. (Science Research Associates, Inc.). It was reported that the publisher is thinking about NCEs and anticipating revision.

Sequential Tests of Educational Progress. (Educational Testing Service). The test is now being revised and will be available in the Fall 1978. STEP III will have spring and fall norms and will provide NCEs. Will have a locater test.

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*Publishers' Title I Committee sent memorandum to Title I TAC. (3/14/77) Reported that they have not yet incorporated NCE scores into scoring/reporting systems.

BASIC SKILLS ASSESSMENT
SAMPLE TEST
MATHEMATICS

The purpose of this test is to see how well you can do the kind of mathematics that many people believe is important.

Each question in the test is followed by four suggested answers. Read each question and then decide which one of the four suggested answers is best. Find the row of spaces on your answer sheet which has the same number as the question. In this row, mark the space having the same letter as the answer you have chosen.

Try to answer every question. There is no penalty for guessing. Do not spend too much time on any one question. There are 20 questions in the test.

Unless otherwise indicated, all figures are drawn to scale. You may do your scratchwork in the booklet.

Sample Question	Sample Answer
$\begin{array}{r}54\\ -48\\ \hline\end{array}$	● Ⓑ Ⓒ Ⓓ
(A) 6 (B) 7 (C) 16 (D) 102	

The correct answer to this question is lettered A, so space A is marked.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

1. 3,794 - 288 =

(A) 2,916
(B) 3,406
(C) 3,506
(D) 3,516

2. 14.75 + .9 =

(A) 23.75
(B) 15.65
(C) 14.35
(D) 14.84

3. 5812 - 175 is about

(A) 5000 - 100
(B) 5000 - 200
(C) 5800 - 100
(D) 5800 - 200

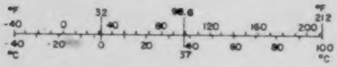
4. 0.09 is about

(A) 10

(B) 1

(C) $\frac{1}{10}$

(D) $\frac{1}{100}$

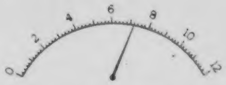


5. The figure above relates Fahrenheit temperatures (upper scale) to centigrade temperatures (lower scale). Which centigrade temperature is equal to 50° Fahrenheit?

(A) 5° C
(B) 10° C
(C) 15° C
(D) 104° C

6. About how many kilograms is 996 grams?

(A) 0.1
(B) 1
(C) 9
(D) 10



7. The reading shown on the scale above is

(A) 6.8
(B) 7.1
(C) 7.2
(D) 8.2

8. The height of a building is most likely to be measured in

(A) millimeters
(B) centimeters
(C) meters
(D) kilometers

9. $\frac{8}{5} \times \frac{5}{4} =$

(A) 2

(B) $\frac{32}{25}$

(C) $\frac{25}{32}$

(D) $\frac{1}{2}$

10. $\frac{3}{8} =$

(A) 0.37
(B) 0.375
(C) 0.38
(D) 37.5

GO ON TO THE NEXT PAGE.

11. Which number is NOT equal to 6.25 ?

(A) $\frac{100}{625}$

(B) $\frac{25}{4}$

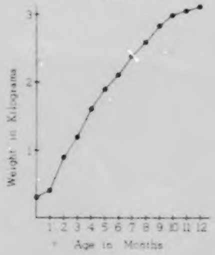
(C) $6\frac{1}{4}$

(D) 625%

12. A roll of quarters cost $10. How many quarters are in a roll?

(A) 40
(B) 80
(C) 250
(D) 400

GROWTH CHART OF A CAT
BIRTH TO ONE YEAR



13. According to the graph, a kitten gains the least weight during which age span?

(A) Birth to 3 months
(B) 3 months to 6 months
(C) 6 months to 9 months
(D) 9 months to 1 year

ELECTRIC RATES

$3.50 for the first 20 KWH

4.20¢ per KWH for the next 80 KWH

4.10¢ per KWH for the next 200 KWH

MINIMUM BILL $3.50

14. Using the rate schedule, what is the charge for 60 KWH of electricity?

(A) $5.18
(B) $3.50
(C) $2.52
(D) $1.68

15. A room is 12 feet wide and 15 feet long. Mr. Lopez wants to put 2 coats of paint on the ceiling. He mus buy enough paint to cover how many square feet?

(A) 24
(B) 30
(C) 150
(D) 360

1¢ SALE

BUY ONE AT REGULAR PRICE
GET THE SECOND FOR 1¢

16. Mrs. Thomas bought two tubes of toothpaste at the sale. The regular price was $1.89. The average price per tube is how much less than the regular price?

(A) $1.89
(B) $1.88
(C) $0.94
(D) $0.07

GO ON TO THE NEXT PAGE.

SELF-SERVICE
GASOLINE
56.8 /gallon

17. The same gasoline is 63.2¢ a gallon at a Full Service station. How much is saved buying 16 gallons at the Self Service?

(A) $1.02
(B) $9.09
(C) $10.11
(D) $10.24

18. Mrs. Wong has to be at work at 8:45. If she allows 1 hour and 20 minutes to get there, what is the latest she can leave home?

(A) A quarter to 8
(B) 5 after 8
(C) Half past 7
(D) 25 after 7

GIGANTIC SALE
BIG $400 TV
NO MONEY DOWN
ONLY $1 A WEEK

19. If you buy this TV, about how many years must you expect to keep paying for it?

(A) 1
(B) 2
(C) 4
(D) 8

20. If state sales tax is 5%, what is the amount of tax on a $400 washing machine?

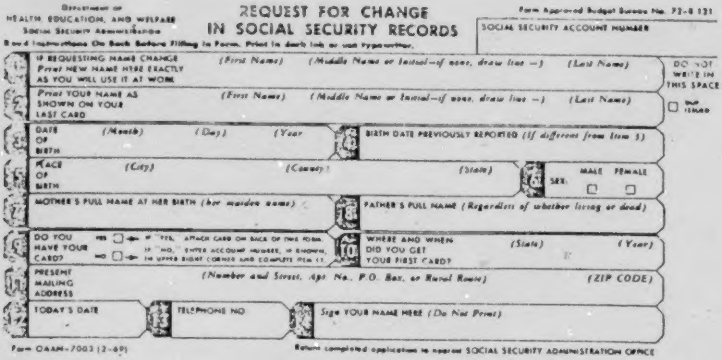
(A) $2
(B) $5
(C) $20
(D) $50

IF YOU FINISH BEFORE TIME IS UP, CHECK YOUR WORK ON THE SAMPLE TEST.

BASIC SKILLS SAMPLE TEST QUESTIONS

Reading

Question 7 refers to the following form.



Department of
HEALTH, EDUCATION, AND WELFARE
Social Security Administration

REQUEST FOR CHANGE
IN SOCIAL SECURITY RECORDS

Form Approved Budget Bureau No. 72-R 131

SOCIAL SECURITY ACCOUNT NUMBER

Read Instructions On Back Before Filling In Form. Print in dark ink or use typewriter.

1 IF REQUESTING NAME CHANGE Print NEW NAME HERE EXACTLY AS YOU WILL USE IT AT WORK (First Name) (Middle Name or Initial—if none, draw line —) (Last Name)

DO NOT WRITE IN THIS SPACE

2 Print YOUR NAME AS SHOWN ON YOUR LAST CARD (First Name) (Middle Name or Initial—if none, draw line —) (Last Name)

☐

3 DATE OF BIRTH (Month) (Day) (Year)

4 BIRTH DATE PREVIOUSLY REPORTED (If different from item 3)

5 PLACE OF BIRTH (City) (County) (State)

6 SEX: MALE ☐ FEMALE ☐

7 MOTHER'S FULL NAME AT HER BIRTH (her maiden name)

8 FATHER'S FULL NAME (Regardless of whether living or dead)

9 DO YOU HAVE YOUR CARD? YES ☐ ← IF "YES," ATTACH CARD ON BACK OF THIS FORM. NO ☐ ← IF "NO," ENTER ACCOUNT NUMBER, IF KNOWN, IN UPPER RIGHT CORNER AND COMPLETE ITEM 11.

10 WHERE AND WHEN DID YOU GET YOUR FIRST CARD? (State) (Year)

11 PRESENT MAILING ADDRESS (Number and Street, Apt. No., P.O. Box, or Rural Route) (ZIP CODE)

12 TODAY'S DATE

13 TELEPHONE NO

14 Sign YOUR NAME HERE (Do Not Print)

Form OAAN-7003 (2-69)

Return completed application to nearest SOCIAL SECURITY ADMINISTRATION OFFICE

7. On which part of the form should you write where you were born?

(A) 3 (B) 4 (C) 5 (D) 6

Question 10 refers to the following bus schedule.

MIDDLETOWN TO SPRINGDALE

Leave Middletown	Arrive Springdale
6:15 a.m.	7:10 a.m.
7:30 a.m.	8:45 a.m.
8:10 a.m.	9:25 a.m.
9:05 a.m.	10:15 a.m.
11:35 a.m.	12:40 p.m.
1:20 p.m.	2:35 p.m.
3:15 p.m.	4:20 p.m.
5:00 p.m.	6:05 p.m.
6:30 p.m.	7:45 p.m.

10. The bus that leaves Middletown at 11:35 a.m. arrives in Springdale at

(A) 12:40 p.m.

(B) 2:35 p.m.

(C) 4:20 p.m.

(D) 6:05 p.m.

Writing Skills

Directions for Questions 5-8: In each of the following sentences, find the error in punctuation or capitalization. No sentence has more than one error.

7. When he thought I wasn't looking, my playful, brother would take a bite
A B C
of my chocolate cake.
D

Directions for Questions 17-18: Choose the best answer to each question.

17. My music teacher thinks that Marian Anderson sings - - - - - - - - any other contralto he has ever heard.

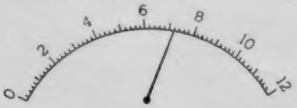
(A) more well than

(B) better than

(C) the most good of

(D) more better over

Mathematics



7. The reading shown on the scale above is

(A) 6.8

(B) 7.1

(C) 7.2

(D) 8.2

18. Mrs. Wong has to be at work at 8:45. If she allows 1 hour and 20 minutes to get there, what is the latest she can leave home?

(A) A quarter to 8

(B) 5 after 8

(C) Half past 7

(D) 25 after 7

SETTING EDUCATIONAL STANDARDS: STATE ACTIVITIES*

STATE	LEGISLATION			STATE BOARD OF EDUCATION			STATE DEPT. OF EDUCATION			PROVISIONS								
	Proposed	Enacted	Defeated	Study	Action Taken	Action Pending	Study	Action Taken	Action Pending	Proficiency in Basic Skills/ Functional Literacy	Academic Skills	Life Skills	High School Grad Requirement	8th Grade Certif. Requirement	Pupil Eval./ Assessment	Grade Promotion Requirement	Early Out Provision	Accountability
Alabama			X							X	X		X		X			
									X	X			X					
Alaska								X					X					
Arizona			X														X	X
								X		X			X	X				
Arkansas			X							X			X		X			
California		X								X			X		X			
		X								X		X					X	
			X							X						X		
	X									X					X			

*Prepared by Education Policy Research Institute of the Educational Testing Service with partial support from the Ford Foundation, July 1977

SETTING EDUCATIONAL STANDARDS: STATE ACTIVITIES*

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Colorado		X (local-option)													X			
Connecticut		X (not implemented)								X			X					
			X							X			X				X	
			X							X							X	
				X													X	
District of Columbia					X											X		
Delaware					X					X		X	X					
Florida		X								X		X	X		X	X	X	
		X															X	

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Florida (continued)	X (2 pieces)																	X
			X									X	X			X		
Georgia				X	X			X				X	X					
					X					X					X			
Hawaii		X (to study the issue)											X					
Idaho					X					X			X					
			X							X					X			
Illinois			X (5 pieces)							X		X	X					

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Illinois (continued)			X (placed on the interim study calendar)							X		X	X					
Indiana		X (to conduct study in competency requirements for secondary schools)																
Iowa	X (2 pieces)									X		X	X					
Kansas			X (2 pieces)							X			X					
Kentucky							X			X			X			X		

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Louisiana		X								X					X			X
	X									X					X			
				X (on minimal competency testing)														
Maine	X									X			X		X			
	X									X			X					
Maryland								X		X					X			X
							X			X			X					
		X								X					X	X		
			X							X			X					

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Minnesota						X				X					X			
	X (2 pieces)									X		X			X			
		X								(Local objectives, standards, and evaluation)					X			
Mississippi							X			X			X					
			X							X	X				X			
			X										X					
Missouri					X					X					X			
Montana				(No statewide minimal competency activity reported)														

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Nebraska								X		X					X			X
Nevada							X (on statewide minimal competency requirments)											
		X								X			X		X	X		
			X (2 pieces)							X	X		X					
			X							X						X		
New Hampshire			X (7 pieces -- some sent for further House study)										X		X			

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New Hampshire (Con't)								X		X					X			
New Jersey		X								X					X			
New Mexico					X					X			X		X			
New York					X					X		X	X					
North Carolina	X (2 pieces)									X			X					
	X									X					X			
North Dakota			X							X			X					
			X							X			X					X
Ohio	X									X	X		X			X		
		X								X					X			

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	Proposed	Enacted	Defeated	Study	Action Taken	Action Pending	Study	Action Taken	Action Pending	Proficiency in Basic Skills/ Functional Literacy	Academic Skills	Life Skills	High School Grad Requirement	8th Grade Certif. Requirement	Pupil Eval./ Assessment	Grade Promotion Requirement	Early Out Provision	Accountability
Oklahoma					X					X		X			X			
Oregon					X					X		X	X					
Pennsylvania			X							X		X			X			
	X									X		X			X			
								X		X					X			
				X						X	X	X	X		X			
Rhode Island								X		X		X			X			
South Carolina	X									X						X		
South Dakota				(No statewide minimal competency activity reported)														
Tennessee				X						X			X					

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SETTING EDUCATIONAL STANDARDS: STATE ACTIVITIES*

STATE	LEGISLATION			STATE BOARD OF EDUCATION			STATE DEPT. OF EDUCATION			PROVISIONS								
	Proposed	Enacted	Defeated	Study	Action Taken	Action Pending	Study	Action Taken	Action Pending	Proficiency in Basic Skills/ Functional Literacy	Academic Skills	Life Skills	High School Grad Requirement	8th Grade Certif. Requirement	Pupil Eval./ Assessment	Grade Promotion Requirement	Early Out Provision	Accountability
Texas					X					X			X					
			X							X			X					
Utah					X					X			X					
Vermont					X					X			X		X			
Virginia		X								X			X		X			
Washington		X								(Competencies set by local districts and communities)					X			
		X								X					X			
West Virginia	No statewide minimal competency requirements but state assistance in the identification of "essential competencies"																	
Wisconsin									X	X			X			X		
Wyoming	No statewide minimal competency activity reported																	

*Prepared by Education Policy Research Institute of the Educational Testing Service with partial support from the Ford Foundation, July 1977

CHARACTERISTICS OF EIGHT COMMONLY USED, NATIONALLY NORMED TESTS

ESEA TITLE 1
EVALUATION &
REPORTING SYSTEM

CHARACTERISTICS OF EIGHT COMMONLY USED, NATIONALLY NORMED TESTS

ESEA Title I
Evaluation and Reporting System

Technical Paper No. 5

G. Kasten Tallmadge
Christine T. Wood

October 1976

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

RMC Research Corporation
Mountain View, California

This pamphlet briefly summarizes some of the features of each of the standardized achievement tests included in the Anchor Test Study (Loret, Seder, Bianchini, & Vale, 1972) as well as editions of the same tests that have been published since the study. The tests reviewed are the California Achievement Test (1970), Comprehensive Tests of Basic Skills (1968 & 1973), Gates-MacGinitie Reading Tests (1964), Iowa Tests of Basic Skills (1971), Metropolitan Achievement Tests (1970), Sequential Test of Educational Progress (1969), SRA Achievement Series (1971), and Stanford Achievement Tests (1973).

The levels and forms of each test are listed along with the grade and month of the normative data points suitable for use in norm-referenced testing. The names given by the various publishers to each test's standard scores (the scores that should be used for any arithmetic computations) are indicated. Those score scales which span all the test levels, thus permitting out-of-level testing are noted. The score-conversion tables needed to implement the Title I evaluation models are also specified.

Finally, the conditions under which norm-referenced testing can be done are described, along with procedures for utilizing the Anchor Test Study conversion tables.

CALIFORNIA ACHIEVEMENT TEST C T), 1970

Test Levels	Norms (Grade/Month)	Forms
1	1.7, 2.4, 2.7	A & B
2	2.7, 3.4, 3.7, 4.4, 4.7	A & B
3	4.7, 5.4, 5.7, 6.4, 6.7	A & B
4	6.7, 7.4, 7.7, 8.4, 8.7, 9.4, 9.7	A & B
5	9.7, 10.4, 10.7, 11.4, 11.7, 12.4, 12.7	A & B

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected in February, March, and April, with the majority of testing done in March. The end-of-grade and middle-of-grade norms are projections, but because of their proximity to the normative data point, they are probably adequate for use with April-to-April and January-to-January norm-referenced evaluations. The beginning-of-grade norms should not be used in norm-referenced evaluation.

Standard Score Scale

The Achievement Development Scale Scores (ADSS) constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to ADSS
Raw Score to Percentile/Stanine

Conditions for Norm-Referenced Testing

The reading subtests of Levels 3 (grades 4 and 5) and 4 (grade 6) were included in the Anchor Test Study. The CAT may thus be used for norm-referenced evaluations under the following conditions:

1. pretest and posttest in April (12-month interval) using CAT end-of-grade norms;
2. pretest and posttest in January (12-month interval) using CAT middle-of-grade norms;
3. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms for reading only, and grades 4, 5, and 6 only;
4. pretest in October, posttest in April using Anchor Test Study Equivalency Tables and Metropolitan Achievement Test norms for reading only, and grades 4, 5, and 6 only.

Using Anchor Test Study Data

The following procedure is recommended for use with Anchor Test Study data. First, convert each pupil's CAT raw score to the equivalent Metropolitan Achievement Test (MAT) raw score. Second, convert each MAT raw score to its corresponding standard score. Third, calculate all statistics using MAT standard scores. Then, if Anchor Test Study norms are to be used, convert the mean MAT standard score to its MAT raw score equivalent. The corresponding percentile can then be read from the Individual Score Norms Tables (not the School Means Norms Tables). If the MAT norms are to be used, percentile equivalents are provided corresponding to mean standard scores.

COMPREHENSIVE TESTS OF BASIC SKILLS (CTBS), 1968

Test Levels	Norms (Grade/Month)	Forms
1	2.4, 2.7, 3.4, 3.7, 4.4, 4.7	Q & R
2	4.7, 5.4, 5.7, 6.4, 6.7	Q & R
3	6.7, 7.4, 7.7, 8.4, 8.7	Q & R
4	8.7, 9.4, 9.7, 10.4, 10.7	Q & R

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected the last week in February and the first week in March. The end-of-grade and middle-of-grade norms are projections, but because of their proximity to the normative data point, they are probably adequate for use with April-to-April and January-to-January norm-referenced evaluations. The beginning-of-grade norms should not be used in norm-referenced evaluation.

Standard Score Scale

Expanded Standard Scores constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to Expanded Standard Score
Raw Score to Percentile/Stanine

Conditions for Norm-Referenced Testing

The reading subtests of Level 2, Form Q (grades 4 and 5) and Level 3, Form Q (grade 6) were inluded in the Anchor Test Study. The CTBS may thus be used for norm-referenced evaluations under the following conditions:

1. pretest and posttest in April (12-month interval) using CTBS end-of-grade norms;
2. pretest and posttest in January (12-month interval) using CTBS middle-of-grade norms;
3. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms for reading only, and grades 4, 5, and 6 only;
4. pretest in October, posttest in April using Anchor Test Study Equivalency Tables and Metropolitan Achievement Test norms for reading only, and grades 4, 5, and 6 only.

Using Anchor Test Study Data

Procedures recommended for using Anchor Test Study Equivalency Tables and norms with the California Achievement Test are presented on page 3. The same procedures should be used with Form Q of the CTBS. If Form R of the CTBS is used, each raw score must be converted to its Form Q equivalent (using conversion tables provided by the publisher) before the Anchor Test Study tables are used.

COMPREHENSIVE TESTS OF BASIC SKILLS (CTBS), 1973

Test Levels	Norms (Grade/Month)	Forms
A	K.1, K.7, 1.1	S
B	K.7, 1.1, 1.7	S
C	1.7, 2.7	S
1	2.7, 3.7, 4.7	S & T
2	4.7, 5.7, 6.7	S & T
3	6.7, 7.7, 8.7	S & T
4	8.7, 9.7, 10.7, 11.7, 12.7	S & T

Norms Acceptable for Norm-Referenced Evaluation

The end-of-grade norms are based on normative data collected in April and thus are adequate for use with April-to-April norm-referenced evaluations. The beginning-of-grade norms for kindergarten and grade 1 are based on normative data collected in October and can be used in evaluations at these grades. All other norms are projections and should not be used.

In addition, norms can also be constructed for six-week periods on either side of mid-April by linearly interpolating between two surrounding normative data points.

Standard Score Scale

Expanded Standard Scores constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to Expanded Standard Score
Raw Score to Percentile/Stanine

Raw Score-to-NCE and Expanded-Standard-Score-to-NCE conversion tables are available if specifically requested from the test publisher.

Conditions for Norm-Referenced Testing

The 1973 edition of the CTBS was not included in the Anchor Test Study. The CTBS (1973) may be used for norm-referenced evaluations under the following conditions:

1. pretest and posttest in April (12-month interval) using CTBS end-of-grade norms;
2. pretest and posttest in October (12-month interval) using CTBS beginning-of-grade norms for kindergarten and grade 1 only;
3. pretest in October and posttest in April using CTBS norms for kindergarten and grade 1 only;
4. if testing cannot be done in April, pretest and posttest within the six-week periods on either side of mid-April (12-month interval) interpolating between the norms given in the test publisher's manual.

GATES-MACGINITIE READING TESTS, 1964

Test Levels		Norms (Grade/Month)	Forms	
Primary	A	1.5, 1.8	1M, 2M	1,2
	B	2.1, 2.8	1M, 2M	1,2
	C	3.1, 3.8	1M, 2M	1,2
	CS	2.8, 3.1, 3.8	1M, 2M, 3M	1,2,3
Survey	D	4.1, 4.8, 5.1 5.8, 6.1, 6.8	1M, 2M, 3M	
Survey	E	7.1, 7.8, 8.1 8.8, 9.1, 9.8	1M, 2M, 3M	

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected in January for grade 1, in October for grades 2-9, and in April for grades 1-9. The February and May norms are projections, but because of their proximity to the January and April testing dates, the February (grade 1 only) and May norms are probably adequate. Thus, the October, February (grade 1 only), and May norms tables can be used for norm-referenced evaluations.

In addition, norms can be constructed for the six weeks on either side of the mid-October data point and for the six weeks prior to the mid-May data point by linearly interpolating between two surrounding normative data points.

Standard Score Scale

The standard scores provided for the Gates-MacGinitie are not expanded standard scores. It is thus not possible to relate scores from one level of the test to norms for another level, so using test levels with appropriate norms may produce floor effects with disadvantaged students

Tables Needed

Raw Score to Standard Score
Standard Score to Percentile

Conditions for Norm-Referenced Testing

Survey D, Form 1M was included in the Anchor Test Study. The Gates-MacGinitie may thus be used for norm-referenced evaluations under the following conditions:

1. pretest in October, posttest in May using Gates-MacGinitie norms (but with the possibility that floor effects may be encountered);
2. pretest and posttest in October or pretest and posttest in May (at 12-month intervals) using the Gates-MacGinitie norms;
3. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms in grades 4, 5, and 6 only;
4. pretest in October and posttest in April using Anchor Test Study Equivalency Tables and Metropolitan Achievement Test norms in grades 4, 5, and 6 only;
5. if testing cannot be done in October or May, pretest and posttest within six weeks either side of mid-October and/or six weeks prior to mid-May, interpolating between the norms given in the test pubisher's manual. If pretesting is done far enough from a normative data point to require interpolation, the posttesting should deviate from its corresponding normative data point in the same direction and by approximately the same amount.

Using Anchor Test Study Data

Procedures recommended for using Anchor Test Study Equivalency Tables and norms with the California Achievement Test are presented on page 3. The same procedures should be used with Form 1M of the Gates-MacGinitie. The implication of using other forms is not clear, as score equivalency tables are not provided by the publishers, despite the probable existence of between-form differences.

IOWA TESTS OF BASIC SKILLS (ITBS), 1971

Test Levels	Norms (Grade/Month)	Forms
7	2.2	5 & 6
8	3.2	5 & 6
9	3.2	5 & 6
10	4.2	5 & 6
11	5.2	5 & 6
12	6.2	5 & 6
13	7.2	5 & 6
14	8.2	5 & 6

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected the last half of October and first half of November. The beginning-of-year norms can be used for norm-referenced evaluation. However, the middle- and end-of-year norms are projections and should not be used. In addition, norms can be constructed for six-week periods on either side of the midpoint of the testing interval (November 1) by linearly interpolating between two surrounding normative data points.

Standard Score Scale

Standard Scores constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to Standard Score
Percentile Ranks to Standard Score

These tables must be specifically requested from the test publisher, and are contained in a booklet entitled Age-Equivalent/Standard Score Tables.

Conditions for Norm-Referenced Testing

The reading subtests of Levels 10 (grade 4), 11 (grade 5), and 12 (grade 6), Form 5, were included in the Anchor Test Study. The ITBS may thus be used for norm-referenced evaluation under the following conditions:

1. pretest and posttest in late October-early November (12-month interval) using ITBS norms;
2. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms for reading only, and grades 4, 5, and 6 only;
3. pretest in October and posttest in April using Anchor Test Study Equivalency Tables and Metropolitan Achievement Test norms for reading only, and grades 4, 5, and 6 only;
4. if testing cannot be done between mid-October and mid-November, then pre- and posttest within six weeks on either side of November 1 (12-month interval) interpolating between the norms given in the test publisher's manual. Pretesting and posttesting times should deviate from November 1 in the same direction and by approximately the same amount.

Using Anchor Test Study Data

Procedures recommended for using Anchor Test Study Equivalency Tables and norms with the California Achievement Test are presented on page 3. The same procedures should be used with Form 5 of the ITBS. The implications of using other forms is not clear as score equivalency tables are not provided, despite the fact that some between-form differences are present.

METROPOLITAN ACHIEVEMENT TESTS (MAT), 1970

Test Levels	Norms (Grade/Month)	Forms
Primer	K.7, 1.4	F, G, H
Primary I	1.7, 2.1	F, G, H
Primary II	2.7, 3.1	F, G, H
Elementary	3.7, 4.1, 4.7	F, G, H
Intermediate	5.1, 5.7, 6.1, 6.7	F, G, H
Advanced	7.1, 7.7, 8.1, 8.7, 9.1	F, G, H

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected in October from grades 2-9, in April from grades K-8, and in January from grade 1. The beginning- and end-of-grade norms can be used in norm-referenced evaluation. The middle-of-grade norms can be used with grade 1 only. In addition, norms can be constructed for the six-week period on either side of mid-October and mid-April by linearly interpolating between two surrounding normative data points.

Standard Score Scale

Standard Scores constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to Standard Score
Standard Score to Percentile

Conditions for Norm-Referenced Testing

The reading subtests of Form F of the Elementary (grade 4) and Intermediate (grades 5 and 6) Levels were included in the Anchor Test Study. The MAT may thus be used for norm-referenced evaluation under the following conditions:

1. test in October and/or April (fall-to-spring or 12-month interval) using MAT norms;
2. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms for reading only, and grades 4, 5, and 6 only;
3. if testing cannot be done in October or April, pretest and posttest within six weeks on either side of mid-October and/or mid-April, interpolating between the norms given in the test publisher's manual. If pretesting is done far enough from a normative data point to require interpolation, the posttesting should deviate from its corresponding normative data point in the same direction and by approximately the same amount.

Using Anchor Test Study Data

If Anchor Test Study norms are to be used, convert the mean MAT standard score to its raw score equivalent. The corresponding percentile can then be read from the Individual Score Norms Table (not the School Means Norms Tables). If the MAT norms are to be used, percentile equivalents are provided corresponding to mean standard scores.

SEQUENTIAL TEST OF EDUCATIONAL PROGRESS II (STEP II), 1969

Test Levels	Norms (Grade/Month)	Forms
4	3.7, 4.7, 5.7	A & B
3	6.7, 7.7, 8.7	A & B
2	9.7, 10.7, 11.7, 12.7	A & B
1	12.7	A & B

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected between April 20 and May 8. The spring norms can be used in norm-referenced evaluation. The fall norms are identical to the spring norms for the previous grade and should not be used.

In addition, norms can be constructed for the six-week period on either side of the midpoint of the testing interval (April 30) by linearly interpolating between two surrounding normative data points.

Standard Score Scale

Converted Scores constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to Converted Score and Percentile Rank

Conditions for Norm-Referenced Testing

The reading subtests of Level 4, Form A, were included in the Anchor Test Study. STEP II may thus be used for norm-referenced evaluations under the following conditions:

1. pretest and posttest in late April or early May (12-month interval) using STEP II norms;
2. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms for reading only, and grades 4, 5, and 6 only;
3. pretest in October, posttest in April using Anchor Test Study Equivalency Tables and Metropolitan Achievement Test norms for reading only, and grades 4, 5, and 6 only;
4. if testing cannot be done in late April or early May, pretest and posttest within six weeks on either side of April 30 (12-month interval), interpolating between the norms given in the test publisher's manual. Pre- and posttesting times should deviate from the normative data point in the same direction and by approximately the same amount.

Using Anchor Test Study Data

Procedures recommended for using Anchor Test Study Equivalency Tables and norms with the California Achievement Test are presented on page 3. The same procedures should be used with Form A of STEP II. If Form B is used, each raw score must be converted to its Form A equivalent (using conversion tables provided by the publisher) before the Anchor Test Study Tables are used.

SRA ACHIEVEMENT SERIES, 1971

Test Levels	Norms (Grade/Month)	Forms
Primary I	1.7, 2.7	E & F
Primary II	2.7, 3.7	E & F
Blue	3.7, 4.7, 5.7	E & F
Green	5.7, 6.7, 7.7	E & F
Red	7.7, 8.7, 9.7	E & F

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected between April 5 and April 25. The second-semester norms can be used for norm-referenced evaluation. The first-semester norms are projections and should not be used.

In addition, norms may be constructed for the six-week period on either side of mid-April by linearly interpolating between two surrounding normative data points.

Standard Score Scale

Growth-scale values constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Raw Score to Growth-Scale Value
Growth-Scale Value to Percentile

Conditions for Norm-Referenced Testing

The reading subtests of Form E of the Blue level (grades 4 and 5) and the Green level (grade 6) were included in the Anchor Test Study. The SRA Achievement Tests may thus be used for norm-referenced evaluations under the following conditions:

1. pretest and posttest in April (12-month interval) using SRA Achievement norms;
2. pretest and posttest in April (12-month interval) using Anchor Test Study Individual Score Norms for reading only, grades 4, 5, and 6 only;
3. pretest in October and posttest in April using Anchor Test Study Equivalency Tables and Metropolitan Achievement Test norms for reading only, and grades 4, 5, and 6 only;
4. if testing cannot be done in April, pretest and posttest within six weeks on either side of April 15 (12-month interval), interpolating between the norms given in the test publisher's manual. Pre- and posttesting times should deviate from the normative data point in the same direction and by approximately the same amount.

Using Anchor Test Study Data

Procedures recommended for using Anchor Test Study Equivalency Tables and norms with the California Achievement Test are presented on page 3. The same procedures should be used with Form E of the SRA Achievement Tests. If form F is used, each raw score must be converted to its Form E equivalent (using conversion tables provided by the publisher) before the Anchor Test Study Tables are used.

STANFORD ACHIEVEMENT TESTS (SAT), 1973

Test Levels	Norms (Grade/Month)	Forms
Primary I	1.5, 1.8, 2.1	A, B, C
Primary II	2.5, 2.8, 3.1	A, B, C
Primary III	3.8, 4.1	A, B, C
Intermediate I	4.8, 5.1	A, B, C
Intermediate II	5.8, 6.1, 6.8	A, B, C
Advanced	7.1, 7.8, 8.1, 8.8, 9.1	A, B, C

Norms Acceptable for Norm-Referenced Evaluation

Normative data were collected in October for grades 2-9, in May for grades 1-8, and in February for grades 1 and 2. The end-of-year norms can be used for norm-referenced evaluation in grades 1 through 8. The middle-of-year norms for grades 1 and 2 and the beginning-of-year norms for grades 2 through 9 can also be used. Norms tables that are labeled Extended Percentile Ranks are projections and should not be used.

In addition, norms can be constructed for the six-week periods on either side of mid-October (grades 2-9), mid-February (grade 2), and mid-May (grades 1-8) by linearly interpolating between two surrounding normative data points.

Standard Score Scale

Scaled Scores constitute an expanded standard score scale that links all levels of the test and makes it possible to do out-of-level testing.

Tables Needed

Stanines & Selected Percentile Ranks
corresponding to Raw Scores
Scaled Scores corresponding to Raw Scores

Conditions for Norm-Referenced Testing

An earlier edition of the Stanford Achievement Tests (1964) was included in the Anchor Test Study. The new edition, however, has many advantages over the old and should be preferred--despite the fact that it cannot be used in conjunction with the Anchor Test Study Equivalency Tables. The SAT may be used for norm-referenced evaluation under the following conditions:

1. test in October and/or May (fall-to-spring or 12-month interval) in grades 3 to 8 using SAT norms;
2. test in February and/or May (winter-to-spring or 12-month interval) in grade 1;
3. test in October and/or February and/or May in grade 2;
4. if testing cannot be done in October, February, or May, pretest and posttest within six weeks on either side of October 15 (grades 2-9), February 15 (grade 2), and/or May 15 (grades 1-8), interpolating between the norms given in the test publisher's manual. If pretesting is done far enough from a normative data point to require interpolation, the posttesting time should deviate from its corresponding normative data point in the same direction and by approximately the same amount.

Copy: Mr. Powell

EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY
08540

OFFICE OF THE PRESIDENT

August 9, 1977

Senator Claiborne Pell
United States Senate
Washington, D.C. 20510

Dear Senator Pell:

The enclosed material is in response to your request, made at the hearing of the Subcommittee on Education, Arts, and Humanities on July 27, that I forward materials to describe and illustrate a possible national test in the basic skills.

As it happens, ETS has been working during the past year with a nationwide consortium of schools to design a testing program -- the Basic Skills Assessment Program -- that could be widely used. I believe our best response to your invitation is to draw heavily on that work, and I am therefore enclosing sample materials from it. These materials in no way exhaust the possible approaches to the evaluation of basic skills, but they do represent a consensus of views set forth by various educators concerned with the problem. A list of the names of individuals is provided in the Basic Skills Assessment Test Specifications.

Sample items of any sort run the risk of being nonrepresentative. I should be pleased to make available for your personal inspection copies of the developed tests in the three areas of reading comprehension, writing and arithmetic. As you can well understand, placing these secure tests in a public medium such as the Congressional Record would seriously damage their utility to educators and school systems.

It was my personal pleasure to meet with you and your Committee. I found the exchange of views constructive and most cordial. Should you care to discuss these or related issues further, I would be most pleased to do so. I hope you will call upon us for any materials that might be of assistance to the Committee in these most important deliberations.

Sincerely yours,

W. W. Turnbull

William W. Turnbull
President

Enclosures

Announcing a New Program . . .

BASIC SKILLS ASSESSMENT

A cooperative effort by Educational Testing Service and a national consortium of school districts

NATIONAL CONCERN WITH THE LEVEL OF BASIC SKILLS

Parents, taxpayers, school board members, legislators, and others have reacted sharply to what is seen as evidence that substantial numbers of students are deficient in the basic skills—reading, writing, and mathematics. In state after state, and in many school districts, new performance standards for students have been proposed.

Still, the acceptable level of performance has not been clearly defined. What is minimum proficiency? Which "fundamental skills" are essential? How skilled must students become to be prepared for the demands of adult life?

A NEW NATIONAL TESTING PROGRAM FOR GRADES 8-12

In response to this concern, Educational Testing Service and a national consortium of school districts have developed a program for Basic Skills Assessment that will be available nationwide in September 1977.

Designed for use by school administrators, classroom teachers, parents, and students, the new program provides an essential part of the information teachers need as they attempt to identify and help students deficient in basic skills. Although the Basic Skills Assessment tests may be used to determine whether students have acquired sufficient skills to meet graduation requirements, their main purpose is to serve as part of an *early warning system* in the eighth and ninth grades. By alerting students and teachers to deficiencies at those levels, the tests will help insure that remediation efforts are undertaken soon enough to have maximum beneficial effects. Educators also can use the tests and related services to monitor student progress through high school.

DEVELOPING NORMS AND LOCAL STANDARDS

The Basic Skills Assessment tests have been normed at the eighth, ninth, and twelfth-grade levels. Many districts, however, will want to interpret test results in terms of minimum standards they develop locally. ETS will offer assistance in setting local standards to those districts that desire it.

SCHOOL DISTRICTS ASSIST IN FORMULATING POLICY

Educators from more than 300 school districts across the nation have joined in a consortium to assist ETS in the development of the program, the design of the tests, and the planning of related services. Representatives of 25 of these districts formed a Steering Committee to formulate policy for the program. More districts continue to join the consortium.

SECURE TESTS IN READING, WRITING, AND MATHEMATICS

The ETS program of Basic Skills Assessment contains tests in the three areas generally adjudged as critical: reading, writing, and mathematics. Important decisions will be based on these tests, so they must be secure in order to insure that all students will start "even." Procedures for maintaining test security are described elsewhere in this brochure. In addition, new forms of the tests will be available each semester.

AVAILABLE NATIONWIDE IN SEPTEMBER 1977

The ETS program of Basic Skills Assessment will be available for use in schools across the nation in September 1977. The tests may be administered by local school districts at any time during the school year by arrangement with ETS. Scoring and reporting will be carried out by ETS. Interested school officials may use the enclosed order form or write directly to Dr. Carol A. Dwyer, Director, Basic Skills Assessment, ETS, Princeton, NJ 08540.

BASIC SKILLS ASSESSMENT

A NEW NATIONAL PROGRAM OF BASIC SKILLS ASSESSMENT

No one doubts that skill in reading, writing, and mathematics makes a positive difference in an individual's potential for earning a living, being an alert consumer, maintaining good health, and extracting the most from leisure experiences. The crucial needs today are to set minimum standards of proficiency in these skills and to determine how to help students meet them.

This program will provide teachers with an important part of the information they need to guide individual students toward mastery of the basic skills. Students tested in the eighth grade could be assigned appropriate remedial courses early in high school. Test results might be used by schools to decide whether students are sufficiently skilled to participate fully in elective programs or to satisfy some graduation requirements.

EARLY TESTING CAN HELP

To help identify weaknesses, the tests may be administered initially to students in the eighth or ninth grade. Further testing may be used to verify progress toward mastery of the basic skills in the tenth, eleventh, and twelfth grades. But the tests should be administered early enough so there is time for students with persistent weaknesses to do the needed remedial work before graduation.

The broad intent of the tests is to help local districts determine whether individual high school students have the basic skills essential for coping with the needs and demands of society.

PROGRAM DEVELOPMENT: A NATIONAL NETWORK

Broad national participation in various aspects of program development has been—and continues to be—essential to the soundness of the program of Basic Skills Assessment. From the beginning, school districts across the nation have participated in such activities as:

- Joining in a consortium to assist ETS in developing the program and formulating policy for it.
- Reviewing draft specifications for tests in the basic skills.
- Attending regional meetings to discuss program development.
- Reporting their basic skills measurement needs.
- Serving on committees to set test specifications and review test questions.
- Involving students in pretest and norming administrations and tryouts of local standard-setting procedures.
- Planning and reviewing assessment reports and associated publications and contributing to *News of the Basic Skills Assessment Program*.
- Assisting in the planning and execution of basic skills research projects.

Through this broad participation, many specific problems have been solved. ETS will seek additional help from school districts as the program continues to evolve, trying to meet the needs of students and schools across the country. Through their own efforts, and similar ones elsewhere, local districts will gain assistance in solving one of the most difficult problems related to basic skills: setting appropriate standards at the district level.

ESTABLISHING LOCAL PERFORMANCE STANDARDS

Deciding what performance standards to set for the basic skills is no easy task. What levels of reading, writing, and math achievement enable a student to function with at least minimal independence in this society? Are standards that are suitable for one school district appropriate for another? There is a firm conviction at ETS and among the school districts in the cooperating consortium that standards should be set at the local level. But it also seems clear that many school districts will require assistance in determining equitable standards. For that reason, ETS is offering several services designed to assist local district personnel. Among these services are:

- *Sharing research results.* During the 1976-77 academic year, ETS staff members obtained information from teachers in schools across the nation, seeking their expert judgments regarding student performance. This kind of information, coupled with actual student performance data from the norming administrations, can provide local districts with a framework within which to develop their own standards.
- *Seeking local consensus.* When administering Basic Skills Assessment tests, a school district's teachers can be asked, individually and anonymously, to give their judgments as to how their students should perform on the tests. These judgments then will be collated into a consensus judgment, which can form an important base for setting reasonable local standards.
- *Providing guidance in the standard-setting process.* ETS will make available its own data and experience regarding methods of establishing standards, enabling the local district to examine a variety of approaches and choose those most suited to its own needs and resources through a comprehensive manual available to all program users.

HOW THE PROGRAM WAS DEVELOPED

In August 1976, a Preliminary Advisory Group of 12 representatives of school districts, state departments of education, and colleges met for a two-day conference on assessing the basic skills. ETS staff and committee members agreed that a comprehensive program of articulated services was necessary to meet the diverse needs of school districts across the country. The committee concluded that such services should include, among other things, a battery of tests based on sound theoretical and empirical studies, clear and useful reporting of scores in formats tailored to school needs, research studies, and an efficient system of communication between test developers and users. As a result, ETS is making every attempt to insure that this full range of services is offered in the final program.

In November 1976, and again in March 1977, a Steering Committee of 25 representatives of the school district consortium met at ETS to confer on the development of the Basic Skills Assessment tests, to recommend policy, and to set direction for the new program. An executive committee of eight members was formed to work with ETS staff to prepare recommendations for the Steering Committee with regard to further consortium development as well as policies and procedures for the program.

CREATING THE TESTS

One of the major suggestions of the Preliminary Advisory Group was that ETS should get as much input and direction as possible from school districts that were potential users of the program. Consequently, 4,000 school districts were surveyed by mail to ascertain what they believed should be measured in tests of basic skills.

Members of the Test Development Committees were chosen carefully to assure representation of various regions and races, both sexes, subject-matter experts, and practicing school district administrators. As a result of this collaboration between educators in the field and ETS measurement specialists, the Basic Skills Assessment tests were fashioned with meticulous attention to both sound testing procedures and real school needs. The enclosed set of sample questions indicates something of the scope and nature of the tests. These special features also should be noted:

- *The tests are secure.* Because of the importance of decisions that may be made about individuals, partly on the basis of test scores, each test copy will be individually numbered to facilitate monitoring and control. All test booklets will be returned to ETS for destruction. New forms of the tests will be made available periodically to help maintain security. They will be released only to authorized school representatives, who will share with ETS the responsibility for test security. All program participants will agree to adhere to program policies and procedures as developed by the school district consortium.
- *Tests and related services for each area—reading, writing, and mathematics—are available separately or as a complete package.* Some schools or districts may be concentrating on a particular area, and they may wish to evaluate the effectiveness of a particular program.
- *The tests focus on real-life materials.* A high school graduate should be able to function in society. He or she will be required to find and hold a job, maintain a household, keep informed, and meet this technological society on its own terms. The most appropriate way to determine whether a student has the minimal reading, writing, and mathematics skills required is to ask questions based on situations that are encountered in real life.

SERVICES RELATED TO THE PROGRAM

To insure that the Basic Skills Assessment program is as effective as possible, ETS is offering a broad range of support services that will be tailored to every level of individual need, from the classroom teacher to the superintendent and school board member. Among these services are the following:

- *Scoring and reporting.* After local administration of the tests, answer sheets will be returned to ETS, where they will be scored and reports of the results will be prepared and issued.
- *Flexible formats for score reports.* Certain base documents are available through the program as a matter of course, but schools and districts also can select from a variety of optional report formats to meet their own needs.
- *Assistance with the diagnostic process.* Score reports are available for groups of students on clusters of items in each test to help teachers and curriculum coordinators pinpoint the strengths and weaknesses of instruction.

BASIC SKILLS
ASSESSMENT

For information, write to Dr. Carol A. Dwyer, Director, Basic Skills Assessment, ETS, Princeton, NJ 08540

Sample Questions

Questions 4-5: Read each question and then decide which of the four suggested answers is best.

Choose the words that best complete the sentence.

4. **While I was cooking supper,**

(A) and I burned myself (B) burning myself
(C) getting burned myself (D) I burned myself

(This question requires the student to distinguish between complete and incomplete sentences. Only choice D goes with the first part to form a complete sentence. The student who is able to select a complete sentence is much more likely to be able to generate one than is a student unable to select such a sentence.)

5. **Which paragraph would be most helpful in explaining how to care for a person bitten by a dog?**

(A) Because the threat of rabies is ever present in case of an animal bite, it is necessary to remove the animal's saliva from the wound. Other infectious agents may be present as well and should not be ignored.
(B) Wash the bite with hot soapy water. Then put on an antiseptic like hydrogen peroxide and cover the bite with a bandage. Call a doctor immediately.
(C) Rabies is a viral disease potentially carried by all warm-blooded animals. The bite of any such animal should therefore be treated with care.
(D) Cleanse and disinfect the wounded area. Obtain appropriate professional care.

(This question measures the student's ability to select the most useful information in a given situation. All of the responses are grammatically correct. Choices A and C are more general, providing no immediate useful information. Choice D provides more specific information, but does not answer the question of how to "cleanse and disinfect" or what "appropriate professional care" may be. Choice B, the correct response, is specific, concrete, and of immediate usefulness.)

Question 6: Writing Sample.

Pine Grove Camp
Needs Counselors
Please apply in writing to:
Morgan Davis
10 Lincoln Rd.
Louisville, Kentucky 40202

6. *Directions:* **Thomas Moore is 17. He lives at 69 Banberry Lane in Louisville, Kentucky 40202. He has worked as a counselor at Camp Pioneer for two years. He has been trained in first-aid and water safety.**

Pretend that you are Thomas Moore and write the letter applying for the job of counselor at Pine Grove Camp.

(An appropriate response must make clear that the writer is applying for the job of counselor at Pine Grove Camp. It should mention the experience and skills described in the directions, and it should include a complete return address. A good response should also be free of gross errors in mechanics or usage.)

MATHEMATICS

Many students reach the end of high school without becoming competent in the basic operations of arithmetic. Others know how to add, subtract, multiply, and divide, but are unable to apply those operations to practical situations.

The Mathematics Skills Test, therefore, contains both straightforward computation questions and problems requiring applications of those skills to real-life situations. Approximately 40 percent of the 70 questions measure the ability to calculate with whole numbers, common fractions, and decimals.

Sixty percent of the questions measure applications of mathematical skills in such areas as comparative shopping, installment buying, taxation, do-it-yourself construction, and transportation.

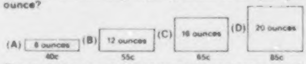
Sample Questions

Questions 7-9: Read each question and then decide which of the four suggested answers is best.

7. $\begin{array}{r} 62 \\ +\,528 \\ \hline \end{array}$ **(A) 580 (B) 590 (C) 581 (D) 690**

(The student is asked to add two whole numbers. The correct answer is B. The wrong choices represent common computational errors such as forgetting to "carry" or "carrying" an incorrect number of places or not knowing basic number facts.)

8. **Which of the following boxes of cereal is cheapest per ounce?**



(The student is required to compute the cost per ounce of each package and then compare the costs to select the cheapest. The correct answer is C. As is often the case in real life, the largest box is not necessarily the cheapest per ounce.)

9. **A job pays $6.50 per hour with time-and-a-half for overtime. If you work 40 regular hours and 8 overtime hours at that job, how much would you earn?**

(A) $260 (B) $312 (C) $338 (D) $468

(The student is required to calculate the time-and-a-half rate of $9.75 per hour, multiply that times 8, and add the sum to the regular wage, which is calculated by multiplying $6.50 times 40. The correct choice is C. Note that the wrong answers are based on common errors such as forgetting to include the overtime hours, multiplying total hours by the hourly wage, or multiplying total hours by the overtime rate.)

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BASIC SKILLS
ASSESSMENT

SAMPLE QUESTIONS

A cooperative effort by Educational Testing Service and a national consortium of school districts

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READING

Most people believe that high school students should be able to read such functional materials as job application forms, driver's manuals, tax forms, warning notices, and medicine labels.

There is also general agreement that high school students should be able to obtain information from newspaper articles, evaluate editorials and advertisements, and understand fiction.

The Reading Skills Test, therefore, draws stimulus materials from a variety of areas relevant to the roles people play as they earn a living, purchase goods and services, continue learning, meet their obligations as citizens, and take care of themselves and those dependent on them.

About half of the 65 questions measure the reading skill of literal comprehension, 40 percent measure the ability to draw inferences from what is read, and 10 percent measure the ability to make judgments about what is read.

Sample Questions

***Questions 1-2:* Each of these questions refers to the following part of a medicine label.**

For Temporary Relief of Mild Sore Throat

Dosage	**3-6 years: 1/4 teaspoon every 6 hours** **6-12 years: 1/2 teaspoon every 6 hours** **over 12 years: 1 teaspoon every 4 hours**
Warning	**Severe sore throat or sore throat accompanied by fever, headache, nausea, or vomiting may be serious. Consult a physician immediately. If rash or irritation develops, stop using and consult a physician. Do not use more than 5 days or give to children under 3 years of age unless directed by a physician.**

1. **How much of the medicine should you give to a 7-year-old child?**

   (A) 1/4 teaspoon every 6 hours
   (B) 1/2 teaspoon every 6 hours
   (C) 1/2 teaspoon every 4 hours
   (D) 1 teaspoon every 6 hours

   (The correct answer is B. The question requires the student to realize that a 7-year-old should be given the dosage indicated for children 6-12, and to comprehend the literal statement of the amount to be given.)

2. **According to the label, if you have a sore throat, fever, and a headache, you should**

   (A) use the medicine for 5 days
   (B) call a doctor as soon as you can
   (C) increase the amount of medicine you take
   (D) use other medicine to cure the fever and headache

   (The question requires the student to comprehend that the statement "Consult a physician immediately" means "Call a doctor as soon as you can." The correct answer is B.)

***Question 3:* This question is based on the following paragraph.**

> **Most people know that inflation makes money less valuable. People are not able to buy as much with each dollar as they could last year. But few people realize that inflation leads to tax increases. As paychecks go up to meet the increased cost of living, workers are forced into higher tax brackets. They pay higher taxes on money that is worth less.**

3. **What is the main idea of the paragraph?**

   (A) Inflation leads to tax increases.
   (B) The cost of living is increasing.
   (C) Paychecks are going up.
   (D) Money is less valuable.

   (The question requires the student to infer the main idea of a paragraph. All of the choices state ideas contained in the paragraph, but choices B, C, and D are included only to support the major contention stated in choice A.)

WRITING

Some educators stress "correctness" and the use of standard English, and others stress "communication" and the acceptance of dialectal variation.

Most people agree, however, that high school students should be able to follow such basic conventions of standard written English as beginning sentences with capital letters, ending them with the appropriate punctuation, and spelling common words correctly. It is also important that high school students be prepared to write effectively as well as correctly.

The Writer's Skills Test, therefore, measures both standard conventions of writing and effectiveness of expression. About one-third of the 75 questions measure spelling, capitalization, and punctuation. The remainder of the test measures appropriate usage, relevancy of information, and organization.

While there are ample data showing that multiple choice tests of writing skills correlate substantially with the results of scoring actual samples, some educators prefer to measure writing skill directly. Therefore, a writing sample test is offered in addition to the multiple choice Writer's Skills Test.

By special arrangement, program participants may elect to return writing samples to ETS for scoring, or they may choose to score the papers locally with training and assistance from ETS staff.

BASIC SKILLS
ASSESSMENT

- *Inservice training program.* Through regional conferences, workbooks, and other media, faculty and administrators can learn about tests and testing, scoring, score interpretation, uses of scores, and the communication of score results.
- *NEWS OF THE BASIC SKILLS ASSESSMENT PROGRAM.* Designed to help program participants share problems and solutions, this newsletter reports developments from a variety of sources in the field, as well as news of the program itself.
- *Assistance with setting local standards.*

BUILDING ON A SOLID FOUNDATION OF RESEARCH

From 1970 through 1975, ETS carried out major research under the U.S. Office of Education's Targeted Research and Development Program in Reading, often referred to as the national Right to Read project. In a national survey, ETS research scientists probed the questions surrounding the specific levels of reading ability required of adults in everyday life: In what situations and for what reasons are particular levels of reading skills used? A precursor of other, similar national efforts, this survey yielded extensive data that exemplify the solid base of research on which ETS is building the Basic Skills Assessment program.

Research, of course, is a continuing process. During the program's developmental phase, additional studies have been conducted, including:

- *Analyses of basic skill areas.* Draft analyses of the three skill areas were constructed based on past models of basic skills. These drafts will receive broad review among program participants.
- *Survey of teachers across the nation.* Responses to a questionnaire sent to hundreds of teachers were analyzed to incorporate their judgments of student performance on the basic skills into the standard-setting process.

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for release to schools

BASIC SKILLS ASSESSMENT

TEST SPECIFICATIONS

Introduction

The following materials describe the tests that have been developed for the Basic Skills Assessment (BSA). A brief introduction to the topic of test specifications is followed by a discussion of the methods used to set specifications for the BSA. The specifications for each of the tests in the program are given showing the content and skills that are measured. The members of the Test Development committees are listed with their professional affiliations.

Because the BSA tests are secure, representative sample tests have been prepared to serve as specimen copies. Each sample is approximately one-fourth the length of the actual test. Within that limitation, the samples provide an accurate basis for judging the full length tests.

What are Specifications?

Test specifications have often been compared to blueprints because they contain an outline of all the information necessary to "build" a test. Test specifications may be divided into four major areas, each dealing with different attributes of an examination:

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1. Physical (the number of questions, the format of the qu[illegible] the way the test is to be administered and scored, the te[illegible] time, the general appearance and layout of the test, and so [illegible];
2. Statistical (the intended difficulty, the appropriate level of discrimination, the desired reliability, the scoring formula to be used, and the like);
3. Content (the subject matter areas covered by the examination, and the percentage of the examination devoted to each content area);
4. Ability (the various abilities and skills measured by the examination such as literal comprehension, inference, evaluation, application, and the percentage of the examination devoted to each ability).

The specifications for the Basic Skills Assessment and the processes through which the specifications were derived will be detailed below.

How Were Specifications Determined for BSA?

Setting specifications for the Basic Skills Assessment was done in a stepwise process with more and more detailed decisions being made at each succeeding step. The initial broad decisions were made with the help of a Preliminary Advisory Group:

- there would be measures of reading, writing, and mathematics;
- the tests should be used primarily for the identification of the students requiring remediation in the basic skills; and
- school districts should be as heavily involved as possible in the construction of the instruments and in the design of the program.

The Preliminary Advisory Group was drawn from educators and educational administrators around the country who had shown an active interest in the measurement of basic skills.

In response to the Preliminary Advisory Group's suggestion to involve school districts, several parallel efforts were undertaken. The first step was the development of a consortium of school districts now numbering approximately 300 to assist ETS in the development of the program, the design of the tests, and in the planning of related services. Representatives of 25 of these school districts formed a Steering Committee to help formulate policies for the Basic Skills Assessment Program.

While the consortium was being formed, Educational Testing Service drew on its experience with the National Assessment of Educational Progress, the Targeted Research and Development Program in Reading, and various state-wide assessment programs to put together lists of possible skills and content areas that might be measured in basic skills assessment tests. From these lists, questionnaires were developed and sent to 4,000 school districts around the United States. Respondents were asked to rate each of the entries on the questionnaire in terms of its relevance and importance for inclusion in a test of basic skills. The results were tabulated, and a rank ordering of specifications by perceived importance was created. Members of the Consortium Steering Committee reviewed the results of the questionnaires and suggested additions and possible revisions.

The members of the Steering Committee were asked to nominate people within their districts to serve as members of Test Development Committees that would make detailed decisions about the content of the examinations. Representatives of the relevant professional organizations were added to the lists of nominees. Committee members were then selected to insure reasonable representation of regions of the country, men and women, ethnic groups and type of professional experience.

Two Test Development Committees were established: one for reading and writing and one for mathematics. Using as a data base the results of the specifications questionnaire, the Committees were asked to determine which entries on the questionnaires should be included in the test and to suggest additional entries. The Committees then were asked to determine what proportion of the examination should be allocated to each of the content areas and skills to be measured.

As is to be expected in an area as complicated as the assessment of basic skills, the committee process involved much discussion and compromise. When grappling with the reading test, for example, a great deal of discussion followed the suggestion to include such "literary" content and skills as poetry, narrative fiction, figurative language, character evaluation, and the like. The bulk of the discussion dealt with a re-evaluation of what should be considered basic. Well reasoned arguments were made on both sides of the issue leading to the compromise of excluding poetry, including narrative fiction and including, where possible, such skills as evaluation of written materials. Similar discussions took place among members of the mathematics committee in trying to decide whether or not to include applications of the Pythagorean theorem, or the use of English vs. metric measurement units, for example.

The results of the committees' deliberations are summarized in the detailed listing of specifications that follow.

WHAT ARE THE SPECIFICATIONS FOR THE BASIC SKILLS ASSESSMENT TESTS?

Flexibility of Specifications

The specifications that follow are those that were arrived at for the initial year of the Basic Skills Assessment. If the needs of users of the tests change over time, the specifications will be changed to help meet those needs. A new edition of the test will become available each semester.

Physical Specifications

There are three separate multiple-choice examinations: Reading, A Writer's Skills, and Mathematics. Each test is designed to be administered in approximately 45 minutes and to be machine scorable. In addition, there is a direct measure of writing ability designed to be administered within a 45-minute period that must be scored subjectively. Two parallel forms of each of the tests are available.

Statistical Specifications

Since the primary purpose of the Basic Skills Assessment is to identify those students requiring remediation in the basic skills, the tests are at a difficulty level that efficiently discriminates between a group requiring remediation in the basic skills and a group not requiring such remediation. The tests are relatively easy for the population as a whole. The tests are designed to have reliabilities over .90 which is commensurate with the kind of decisions we expect to be made on the basis of the test scores. The tests are unspeeded. In other words, almost all of the students taking the test should be able to finish all the questions within the suggested time.

Content and Ability Specifications

Of course, the content and abilities measured are different in each one of the examinations. The pages that follow indicate the skills and abilities measured and the number of questions devoted to them for each of the three tests.

BASIC SKILLS ASSESSMENT

SPECIFICATIONS FOR THE READING TEST

READING SKILLS TO BE MEASURED

READING SKILLS	Number of Questions
Literal Comprehension	33
Inference	25
Evaluation	7
Total	65

CONTENT CATEGORY	MATERIALS TO BE READ	
CONSUMER	Telephone Directory	2
	Loan Agreement	2
	Guarantee	2
	Advertising	3
	Operating Guides	2
	Product Information	2
	Sub-Total	13
LEARNER	Newspaper or Magazine	3
	Narrative Fiction	4
	Dictionary	2
	School Catalogue	2
	Cartoon	1
	Book or Periodical Titles	2
	Sub-Total	14
CITIZEN	Editorial	3
	Tax Form	2
	Driver's Application Form	2
	Law	2
	Political Propaganda	3
	Community Resources	2
	Sub-Total	14
PROTECTOR	Medicine Label Directions	3
	Product Warnings	3
	Nutritional Information	2
	First Aid Information	2
	Road Map	2
	Sub-Total	12
PRODUCER	Job Application	3
	Description of Benefits	2
	Bus Schedule	2
	Want Ads	3
	Work Related Information	2
	Sub-Total	12
	TOTAL	65

BASIC SKILLS ASSESSMENT

SPECIFICATIONS FOR A WRITER'S SKILLS TEST

WRITING SKILLS TO BE MEASURED

WRITING SKILLS	Number of Questions
I. Mechanics of Writing	
(A) Spelling of common words	14
(B) Capitalization and Punctuation capitalization of proper nouns capitalization of proper adjectives unnecessary capitalization end punctuation commas in addresses and dates commas in series commas for clarity unnecessary comma apostrophe to show possession apostrophe to show contraction quotation marks (direct quotation)	14
(C) Fill Out Forms Competently	4
II. Effectiveness of Expression	
(A) Appropriate Usage of Standard Written English subject-verb agreement verb form tense sentence fragment double negative diction, according to meaning pronoun agreement with antecedent pronoun shift pronoun case adjective-verb confusion unidiomatic infinitive comparison of modifiers unidiomatic prepositions logical agreement logical comparison dangling modifier parallelism	17
(B) Evaluation and Organization clarification irrelevancy sentence relationship economy ordering information diction, according to tone	26

BASIC SKILLS ASSESSMENT

SPECIFICATIONS FOR A WRITER'S SKILLS TEST (CONTINUED)

CONTENT CATEGORY	MATERIALS
CONSUMER	Letter explaining a problem Personal check Letter requesting information
LEARNER	Informative passage Narrative passage Summary
CITIZEN	Announcements Letter expressing a point of view Properly addressed envelope
PROTECTOR	Letter requesting information Announcements Instructions
PRODUCER	Want Ads Letter of application for employment Application form

SPECIFICATIONS FOR THE WRITING SAMPLE

OPTION A--Practical and Expository Writing: 45 minutes

1. Organize and express thoughts about a visual or written stimulus. (20 min.)
2. Write a letter of application. (20 min.)
3. Fill out a form. (5 min.)

OPTION B--Practical Writing: 45 minutes

1. Accurately convey information. (20 min.)
2. Write a letter of application. (20 min.)
3. Fill out a form. (5 min.)

BASIC SKILLS ASSESSMENT

SPECIFICATIONS FOR THE MATHEMATICS TEST

MATHEMATICS SKILLS TO BE MEASURED	Number of Questions
Add or subtract whole numbers	2
Multiply or divide whole numbers	11
Add or subtract decimals	6
Multiply decimals	4
Add or subtract fractions	1
Multiply fractions	2
Identify equivalences: fractions, decimal, percent	5
Find the percent of a number	1
Approximate numbers by rounding	1
Find what percent one number is of another	1
Compute an average	1
Identify the expression of an amount of money in words as on a check	1
Approximate sums, differences, products and quotients	6
Estimate measurement (intuitive comparison)	4
Compute measurements	8
Read graphs (bar, line, circle) tables and scales	8
Interpret scale drawings	2
Compute interest	1
Compute elapsed time	1
Combine operations	11
Total	70

CONTENT

COMPUTATION	
Straightforward Computation	30
APPLICATIONS	
Consumer Buying (comparative shopping, installment buying, discounts, etc.)	10
Taxes (sales, income, etc.)	2
Banking (savings, borrowing, mortgage)	4
Wages and Salaries (time, payroll deductions, etc.)	4
Household Tasks and Expenses (utilities, decorating)	6
Shipping and Mailing	1
Mileage, Parking, Safety, Transportation	5
Statistical Inference (polls, advertising)	1
Health and Nutrition	2
General Activities, Sports	5
Total	70

The Test Development Committee for Mathematics did not feel that the use of the content categories (consumer, learner, etc.) would be appropriate in mathematics.

BASIC SKILLS ASSESSMENT

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BASIC SKILLS ASSESSMENT

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BASIC SKILLS ASSESSMENT

SAMPLE TEST

READING

The purpose of this test is to see how well you can read the kinds of things that many people think are important. The questions are based on selections taken from such things as labels, forms, bus schedules, and newspaper articles.

Look over the questions following each selection to get an idea of the kind of information that you should be looking for. Then read the selection and answer the questions based on it.

Each question in the test is followed by four suggested answers. Read each question and then decide which one of the four suggested answers is best. Find the row of spaces on your answer sheet which has the same number as the question. In this row, mark the space having the same letter as the answer you have chosen.

Try to answer every question. There is no penalty for guessing. Do not spend too much time on any one question. There are 15 questions in the test.

Sample Question

Most drivers take $\frac{3}{4}$ of a second to react to a danger signal. A car can go a long way in that length of time.

How long does it take most drivers to react to a danger signal?

(A) $\frac{3}{4}$ second

(B) 1 second

(C) 3 seconds

(D) 4 seconds

Sample Answer

● Ⓑ Ⓒ Ⓓ

The correct answer is (A) "$\frac{3}{4}$ second." Therefore, answer space (A) is marked.

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Questions 1-3 refer to the following medicine label.

RAMITOL: FOR TEMPORARY RELIEF OF MILD SORE THROAT

Dosage: 3 - 6 years; $\frac{1}{4}$ teaspoon at 6-hour intervals

6 - 12 years; $\frac{1}{2}$ teaspoon at 6-hour intervals

over 12 years; 1 teaspoon at 4-hour intervals

WARNING: Severe and persistent sore throat or sore throat accompanied by fever, headache, nausea, or vomiting may be serious. Consult a physician immediately. If rash or irritation develops, stop use and consult a physician. Do not use more than 2 days or administer to children under 3 years of age unless directed by physician.

1. According to the directions, if you have a sore throat, fever, and a headache, you should

(A) use Ramitol for more than 2 days

(B) call a doctor as soon as you can

(C) increase the amount of Ramitol you take

(D) use other medicine to stop the pain

2. How much Ramitol should be given to a 7-year-old child?

(A) $\frac{1}{4}$ teaspoon every 6 hours

(B) $\frac{1}{2}$ teaspoon every 6 hours

(C) $\frac{1}{2}$ teaspoon every 4 hours

(D) 1 teaspoon every 4 hours

3. You should stop using Ramitol right away if you get a

(A) headache

(B) fever

(C) rash

(D) sore throat

GO ON TO THE NEXT PAGE.

Questions 4-6 refer to the following table of contents.

Adult Games and Hobbies 164-165
Apparel--
  Men's 104-106
  Women's, Furs 107-109
Appliances--
  Portable 41-43
  Major 103
Artificial Flowers 67
Auto Accessories 163
Barbecue Grills 178
Bath--
  Accessories 92-93,96-97
  Hampers 94-95
  Mats, Scales 98-99
  Shower Curtains
  and Draperies 94-95
Bedding 69
Bedspreads 74-77
Blankets 78-89
Cameras, Photo Equipment . . . 128-129
Clocks 36,40,44-45
Closet and Sewing Accessories . . 88-89
Comforters 81
Cookware/Housewares 22-35
Curtains, Draperies 84-85
Dinnerware--
  China 19
  Melamine 13
  Semi-vitreous 16-17
Floor Care 102-103
Giftware 4-9
Glassware 10-11
Hassocks 62
Infants' Apparel 146-147
Infants' Bedding 144-145
Instructions, How to Order 179
Juvenile Furniture and
  Nursery Accessories 144-145
Juvenile Wheel Goods,
  High Chairs 146-147
Kitchen Dinettes 31
Lamps 58-62
Laundry Supplies/Irons 100-101
Luggage 124-127

GO ON TO THE NEXT PAGE.

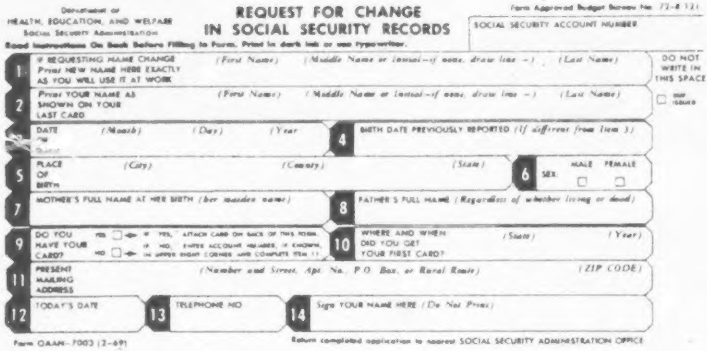
4. Which pages would you read if you wanted information about cameras?
   - (A) 40-45
   - (B) 74-77
   - (C) 128-129
   - (D) 144-145

5. Which pages would you read if you wanted information about baby clothes?
   - (A) 78-79
   - (B) 107-109
   - (C) 124-127
   - (D) 146-147

6. Information about lamps is found on pages
   - (A) 58-62
   - (B) 88-89
   - (C) 92-93
   - (D) 104-106

GO ON TO THE NEXT PAGE.

Questions 7-9 refer to the following form.



Department of
HEALTH, EDUCATION, AND WELFARE
Social Security Administration

REQUEST FOR CHANGE
IN SOCIAL SECURITY RECORDS

Form Approved Budget Bureau No. 72-R 121

SOCIAL SECURITY ACCOUNT NUMBER

Read Instructions On Back Before Filling In Form. Print in dark ink or use typewriter.

1 IF REQUESTING NAME CHANGE Print NEW NAME HERE EXACTLY AS YOU WILL USE IT AT WORK	(First Name) (Middle Name or Initial—if none, draw line —) (Last Name)	DO NOT WRITE IN THIS SPACE
2 Print YOUR NAME AS SHOWN ON YOUR LAST CARD	(First Name) (Middle Name or Initial—if none, draw line —) (Last Name)	☐ DUP ISSUED
3 DATE OF BIRTH (Month) (Day) (Year)	4 BIRTH DATE PREVIOUSLY REPORTED (If different from Item 3)	
5 PLACE OF BIRTH (City) (County) (State)	6 SEX MALE ☐ FEMALE ☐	
7 MOTHER'S FULL NAME AT HER BIRTH (her maiden name)	8 FATHER'S FULL NAME (Regardless of whether living or dead)	
9 DO YOU HAVE YOUR CARD? YES ☐ → IF "YES," ATTACH CARD ON BACK OF THIS FORM. NO ☐ → IF "NO," ENTER ACCOUNT NUMBER, IF KNOWN, IN UPPER RIGHT CORNER AND COMPLETE ITEM 11	10 WHERE AND WHEN DID YOU GET YOUR FIRST CARD? (State) (Year)	
11 PRESENT MAILING ADDRESS (Number and Street, Apt. No., P.O. Box, or Rural Route) (ZIP CODE)		
12 TODAY'S DATE	13 TELEPHONE NO.	14 Sign YOUR NAME HERE (Do Not Print)

Form OAAN-7003 (2-69)

Return completed application to nearest SOCIAL SECURITY ADMINISTRATION OFFICE

7. On which part of the form should you write where you were born?

(A) 3

(B) 4

(C) 5

(D) 6

8. On which part of the form do you tell if you lost your social security card?

(A) 9

(B) 10

(C) 11

(D) 12

9. Line 1 of this form should be used to report a change of

(A) address

(B) name

(C) telephone number

(D) social security number

GO ON TO THE NEXT PAGE.

Questions 10-11 refer to the following bus schedule.

MIDDLETOWN TO SPRINGDALE

Leave Middletown	Arrive Springdale
6:15 a.m.	7:10 a.m.
7:30 a.m.	8:45 a.m.
8:10 a.m.	9:25 a.m.
9:05 a.m.	10:15 a.m.
11:35 a.m.	12:40 p.m.
1:20 p.m.	2:35 p.m.
3:15 p.m.	4:20 p.m.
5:00 p.m.	6:05 p.m.
6:30 p.m.	7:45 p.m.

10. The bus that leaves Middletown at 11:35 a.m. arrives in Springdale at

(A) 12:40 p.m.

(B) 2:35 p.m.

(C) 4:20 p.m.

(D) 6:05 p.m.

11. The latest bus you can take from Middletown to be in Springdale before 5:00 p.m. leaves at

(A) 9:05 a.m.

(B) 11:35 a.m.

(C) 1:20 p.m.

(D) 3:15 p.m.

GO ON TO THE NEXT PAGE.

Question 12 refers to the following information.

> Those entitled to this minimum wage are employed by such establishments as preschools, schools, and colleges; hospitals; laundries; large hotels, motels, and restaurants; and motion picture theaters.

12. Which of the following would be entitled to the minimum wage referred to above?

(A) A farm worker

(B) A worker in an automobile factory

(C) A coal miner

(D) A teacher's aide

GO ON TO THE NEXT PAGE.

Questions 13-15 refer to the following passage.

What could she say to convince them of the importance of her study? The board of judges seemed cool and uninterested the morning Katherine went to ask them for money to support her study. Politely the chairman asked about the purpose of what Katherine wanted to do.

Katherine had her answer ready. She said, "It's a bit difficult to describe, exactly. Do you mind if I show you?"

The chairman nodded. Katherine slipped out of her dress, quickly undressing to the costume she wore beneath. This took everyone by surprise.

Gracefully Katherine turned before them and danced a few steps from a scene in a famous ballet. She straightened up and said, "That is the kind of dancing being taught here."

Then she threw her body into an African tribal dance. She told the board, "That is the way people dance in other places. I want to go where they dance like that. I want to find out why, how it started, and what influence the dances had on the people. I want to learn more about my heritage."

The chairman leaned over and asked, "How about the West Indies?" Katherine had won her grant.

13. The title that tells most about the passage is

    (A) Katherine Convinces the Judges

    (B) Dances of the West Indies

    (C) Katherine and the Ballet Dancer

    (D) Teaching the Judges to Dance

14. Why did Katherine dance for the judges?

    (A) To describe what she wanted to study

    (B) To prove that she was a good dancer

    (C) To show off her costume

    (D) To show how beautiful ballet could be

15. According to the passage, when the judges saw Katherine's costume, they were

    (A) angry

    (B) surprised

    (C) uninterested

    (D) worried

IF YOU FINISH BEFORE TIME IS UP, CHECK YOUR WORK ON THE SAMPLE TEST.

BASIC SKILLS ASSESSMENT

SAMPLE TEST

A WRITER'S SKILLS

The purpose of this test is to find out how well you know the kinds of things that many people think are important in standard written English. There is a variety of questions about spelling, punctuation, usage, sentence structure, and sentence relationships. The types of written material include notices, messages, sentences, paragraphs, letters, and application forms.

Each question in the test is followed by four suggested answers. Read each question and then decide which one of the four suggested answers is best. Find the row of spaces on your answer sheet which has the same number as the question. In this row, mark the space having the same letter as the answer you have chosen.

Try to answer every question. There is no penalty for guessing. Do not spend too much time on any one question. There are 22 questions in the test.

Sample Question

Directions: Choose the one underlined word that is misspelled.

Mary called. She said she could
A

take care of the children Saterday
B C

night.
D

Sample Answer

Ⓐ Ⓑ ● Ⓓ

The correct answer to this question is C, because Saturday is misspelled. Therefore, answer space C is marked.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

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Directions for Questions 1-4: Choose the one underlined word that is misspelled.

1. Found: Adress book, no identification of owner. See
A B

secretary in main office.
C D

2. Maria--We have basketball practice tomorrow night. Hope
A B

your able to be there. See
C D

3. Availible: guitar in excellent condition. $45.
A B C D

4. Beginning Wednesday: instruction in repair and
A B

maintainance of small appliances. Room 204.
C D

GO ON TO THE NEXT PAGE.

Directions for Questions 5-8: In each of the following sentences, find the error in punctuation or capitalization. No sentence has more than one error.

5. This weeks' film, "Food from the Sea," will be shown
A B C

at 8:00 p.m.
D

6. "Are you going to spend the Summer working in New
A B

England?" asked Jane.
C D

7. When he thought I wasn't looking, my playful, brother
A B C

would take a bite of my chocolate cake.
D

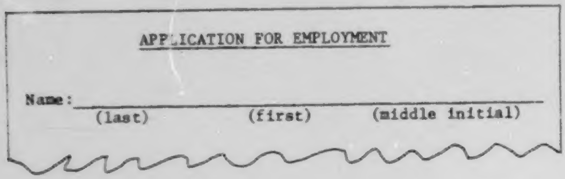
8. Mr. Miller wants his mail forwarded to 31 Center Street,
A B C

Birmingham; Alabama.
D

GO ON TO THE NEXT PAGE.

Directions for Question 9: Choose the best answer to the question.

9. Which way should David Albert Woods fill out the following line in an application form?



APPLICATION FOR EMPLOYMENT

Name: ______________________________
(last) (first) (middle initial)

(A) Woods David A.

(B) D. A. Woods

(C) Woods D. A.

(D) David Albert Woods

GO ON TO THE NEXT PAGE.

Directions for Questions 10-14: Choose the word or set of words that best completes each sentence.

10. Whenever Jackie rides her bicycle, - - - - - - - beside her.

(A) and her dog runs

(B) her running dog

(C) her dog runs

(D) then her dog running

11. My music teacher thinks that Marian Anderson sings - - - - - - - any other contralto he has ever heard.

(A) more well than

(B) better than

(C) the most good of

(D) more better over

12. Never use cleaning fluids or polish on a television screen because - - - - - - -.

(A) of this harming the glass

(B) the glass can suffer from it

(C) of the reason of injury to the glass

(D) they can damage the glass

13. Jerry's supervisor praised his ability - - - - - - -.

(A) that he works quickly

(B) of quick work

(C) for his working quick

(D) to work quickly

GO ON TO THE NEXT PAGE.

14. Eric wanted to buy a motorcycle, but his parents would not - - - - - - -.

(A) be accepting it

(B) allow their approval

(C) give their permission

(D) have agreement with it

GO ON TO THE NEXT PAGE.

Directions for Questions 15-16: Choose the word or set of words that can logically join each pair of sentences. The punctuation will be different in the new sentence, but the words must remain the same.

Look at this example.

Many people trade in cars for newer models. Their old cars still work well.

(A) excepting that

(B) even though

(C) and also

(D) as if

The correct answer is (B). The new sentence reads: "Many people trade in cars for newer models even though their old cars still work well."

15. David returned the new toaster to the store. It didn't work.

(A) otherwise

(B) unless

(C) because

(D) or

16. The teacher would like to take the students on a camping trip. She must get permission from the parents.

(A) regardless of

(B) but first

(C) so that

(D) and if

GO ON TO THE NEXT PAGE.

Directions for Questions 17-18: Choose the best answer to each question.

17. If you had to provide your employer with a written excuse for not coming to work, which of the following should you use?

    (A) It is unfortunate on the company's behalf that I was detained elsewhere.

    (B) My reason is that it was not convenient for me to come to work on that particular day.

    (C) I had to take my neighbor to the hospital for an emergency operation.

    (D) Employees should strive to attend work whenever it is possible to do this.

18. Imagine that you are writing a short story about a terrible shipwreck. Which of these sentences would be most effective for you to use?

    (A) The ship sailed closer and closer to the jagged rocks. Suddenly there was a crunching sound as the rocks tore into the ship's wooden hull.

    (B) The ship sailed right upon the jagged rocks. It then was affected as the wooden hull passed over these rocks.

    (C) The rocks were jagged, and also they were dangerous, too. As the ship came up near them, it was sure that the wooden hull would undergo extreme damage.

    (D) The jaggedness of the rocks provided a danger situation. Striking these, the ship harmed its wooden hull very greatly.

GO ON TO THE NEXT PAGE.

Questions 19-22 refer to the following letter.

101 Arbutus Drive
San Antonio, TX 91803
March 5, 1977

Irish Tourist Bureau
101 Fifth Avenue
New York, NY 10018

Dear Sir or Madam:

[1]My ninth-grade class is studying European geography. [2]Geography is not my favorite subject, but I usually make a good grade in it. [3]I am writing a term paper about the tourist industry in Ireland. [4]Covering the period from 1950 to the present. [5]I need some information of this nature.

Yours truly,
Melinda Jarvis
Melinda Jarvis

19. What should be done with sentence 2?

    (A) It should be joined to sentence 1 with and.

    (B) It should be placed before sentence 1.

    (C) It should be made into two sentences.

    (D) It should be omitted.

GO ON TO THE NEXT PAGE.

20. What should be done with sentence 4?

    (A) It should be left as it is.

    (B) It should be joined to sentence 3.

    (C) Covering should be changed to The cover of.

    (D) It should be omitted.

21. In sentence 5, of this nature should be changed to

    (A) in this aspect

    (B) of factual things

    (C) on such an issue

    (D) about this subject

22. Which of the following is the most appropriate ending for this letter?

    (A) I would appreciate any relevant material that you could send me.

    (B) Whatever realistic data you could send me would be held in esteem on my part.

    (C) Thanking you in advance, please send me everything about Ireland.

    (D) Put any stuff you have about Ireland in an envelope addressed to me. I will be real appreciating if so.

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

THE WRITING SAMPLE

Basic Skills Assessment Program

In conjunction with its objective Test of a Writer's Skills, the Basic Skills Assessment Program offers an optional set of writing exercises.

The writing set adds to the validity of the multiple-choice measure of writing ability; it has the added value of emphasizing to students and their teachers the importance of actual writing in the classroom.

The set of exercises meet the following specifications:

A. Write a letter applying for a job in response to a want ad.

B. Fill out a simple form, such as an application for a driver's license.

C. Choose one:

 (i) Creative writing: Write imaginatively about a visual or written stimulus.

 (ii) Informative writing: Accurately convey given information such as relaying a telephone message or describing a process.

Selection of Exercises

The exercises were pretested to determine how well ninth graders could understand and handle the assignment in the time allotted. ETS suggests 45 minutes for the entire set, but districts are free to adjust the timing.

Scoring of Exercises

Exercise B will be scored analytically by teachers' aides with a score of acceptable or unacceptable. If the exercise has 8 blanks to be filled out correctly, a score of acceptable might be 6 in one district, 8 in another. Rubrics for "correctness" must be determined by the district before the scoring begins.

Exercises A, C i, C ii will be scored holistically by English teachers. In addition, the exercises can be scored analytically for purposes of diagnosis or program evaluation if districts so desire.

The basic theory of holistic scoring is that each factor of writing skill is related to the others and no single factor can be separated from the rest.

Readers read each piece of writing for its total impression. Minor grammatical errors should be ignored in holistic scoring. Students are writing hurriedly and have no time for extensive organization or revision. Since readers are reading for total impression, a poorly written paper will not need word by word analysis. If a paper contains minor mistakes because the writer was hurrying, then the reader will be able to judge the quality of the paper better by reading it for its overall impression.

Each student's writing is read by two different readers. If the two scores on a paper vary greatly, the paper is read by a third reader. The scale and rubrics for scoring may vary according to the needs of the district. It is essential, however, that the holistic procedures be strictly adhered to so that the readers' judgments are independent and faithful to the rubrics.

A district may decide to have its students' papers for exercises A, C i, C ii scored in any of the following ways:

1. Send them to ETS for holistic readings.
2. Have ETS personnel conduct a reading for the district, using local teachers as readers.
3. Have ETS personnel conduct a workshop in the district to train local teachers to run their own readings.
4. Conduct its own readings, guided by ETS materials.

If you require additional information about the Writing Sample or holistic scoring, please call or write Mary Fowles or Harriett Frankel at (609) 921-9000.

STATEMENT

before the

Education, Arts, and Humanities Subcommittee
of the Human Resources Committee

on

July 27, 1977

by

Roy H. Forbes

Director, National Assessment of Educational Progress

My name is Roy H. Forbes. I am the director of the National Assessment of Educational Progress, a project of the National Center for Education Statistics under contract to the Education Commission of the States. The National Assessment of Educational Progress was designed to determine what skills, knowledge, and attitudes are possessed by young Americans aged 9, 13, 17 and 26-35. More specifically, the project reports the educational attainments of young Americans and monitors changes in these attainments (growth or decline) over time. Each year, National Assessment assesses one or more of the following learning areas: Reading, Writing, Mathematics, Science, Citizenship/Social Studies, Career and Occupational Development, Literature, Art and Music.

Within each age group, the data are presented by sex, region of the country (Northeast, Southeast, Central, and West), race (Black, White, and Other), level of parental education, and size-and-type of community. Using special analytic techniques, National Assessment was able to recently report the level of Hispanic achievement in five learning areas. This represents one of the few national sources of data on Hispanic students.

In the eight years that the project has been collecting data, baseline data have been collected in all of the learning areas. From the second assessment of science, the project was able to determine that the percentage of young Americans able to answer the typical science question had decreased by approximately 2 percentage points for 9-, 13-, and 17-year-olds. From the second writing assessment, the project discovered that while 13- and 17-year-olds had maintained their skills in the area of writing mechanics, there was an overall decline in the coherence of their essays. Students appear to have developed a tendency to write the way they talked. From a special study of functional literacy, conducted for the Right to Read Effort, National Assessment determined that there was an overall 2 percentage point increase in the ability of in-school 17-year-olds to respond correctly to the most basic type of reading tasks, and that students who were Black, from rural areas or inner-city areas, had increased their abilities by approximately 4 percentage points. From the second reading assessment, it was determined that the reading abilities of 13- and 17-year-olds had not changed significantly from their counterparts in the first reading assessment (conducted four years earlier); moreover, it was discovered that the 9-year-olds had made significant increases in their reading abilities.

A variety of uses and users exist for the National Assessment materials. The results from each assessment are shared with the appropriate educator groups, concerned federal agencies and commissions, and the general public. The results from an assessment often spur various interest groups on to further investigation and research. As a part of its reporting policy, National Assessment releases a portion of the items that are used to conduct an assessment, to facilitate a better understanding of the results. In addition, the released items and general assessment methodology are made available to state and local education agencies for their use in evaluation/assessment efforts. For example, the states of Maine, Rhode Island, Connecticut, Massachusetts, Florida, Minnesota, Louisiana and Hawaii have used portions of the released mathematics items as a part of their state assessments to allow comparisons to the national and regional results. The state of New Hampshire used a special set of materials entitled "Education for Citizenship: A Bicentennial Survey" to assess its youths in the area of Citizenship. Because of the interest in students' writing abilities, the Bloomington (Minnesota), Cheyenne Mountain (Colorado Springs, Colorado), Lincoln (Nebraska), Air Force Academy (Colorado), and Dover (New Hampshire) school districts have all used portions of the released writing materials to conduct their own local assessments of writing. The results were then used by those local districts to plan and develop curricular improvements. Another example of how National Assessment data is used for curricular improvement was a series of articles which appeared in the Arithmetic Teacher. Each article took items from the first mathematics assessment, examined how students responded incorrectly, and suggested techniques teachers could use to correct the students' computational and problem solving deficiencies. These examples demonstrate the utilization of National Assessment's materials and data by local and state education agencies.

The requests by state and local agencies for information, materials, and service from National Assessment continue to increase. These increases are due to the desire for materials with adequate reporting data which can be used for comparative purposes on an optional basis by local and state agencies. Indeed, many local agencies use National Assessment materials because of their comparative power. Thus, the National Assessment of Educational Progress is attempting to meet these data needs of federal, state, and local agencies.

Thank you, Mr. Chairman. I would be pleased to respond to questions from the committee.

Education Commission of the States
300 LINCOLN TOWER • 1860 LINCOLN STREET
(303) 893-5200 • DENVER, COLORADO 80203

August 12, 1977

The Honorable Claiborne Pell
Dirksen Senate Office Building
Room 4228
Washington, D.C. 20510

Dear Senator Pell:

Reference the Subcommittee on Education, Arts and Humanities' hearing on the Quality of Education-Testing, 1977, July 27, 1977.

You requested that I provide for the record the following information:

(1) The number of Rhode Island students included in the National Assessment sample.

(2) The list of states which have replicated portions of the National Assessment.

(3) Examples of exercises used by the project in conducting an assessment.

You also requested that I provide you with my ideas about what an optional national test in reading, writing and computation should be and what things should be considered in preparing such a test. Responses to these four requests are enclosed.

Thank you for the opportunity to appear before your committee. If I can provide you with any further information or comments, please call. I would be happy to respond.

Sincerely,

Roy H. Forbes
Director

Encls

NAEP
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Enclosure #1

Number of Rhode Island Students in the National Assessment Sample

During the first six years of the assessment (1969-70 through 1974-75), approximately 400 Rhode Island students participated in the assessment each year. The 400 students consisted of an average of 120 9-year-olds, 130 13-year-olds, and 150 17-year-olds annually.

Under the new sampling design implemented for greater efficiency in the seventh year of the assessment (1975-76), Rhode Island students participate in the assessment two out of every four years rather than annually. They will be participating in the assessment of mathematics this fall and also the assessment of writing the following year. It is estimated that approximately 900 Rhode Island students will be assessed in each assessment; the 900 students will consist of 300 students at each age level for each year.

Enclosure #2

STATE ASSESSMENT REPLICATIONS

The following states have conducted state-wide assessment programs closely patterned after National Assessment's procedures. By replicating these assessment procedures and using items from National Assessment, these states were able to compare their students' achievement to national and regional results.

Connecticut
Florida
Hawaii
Louisiana
Maine
Massachusetts
Minnesota
New Hampshire
Rhode Island
Tennessee
Washington

Enclosure #3

NATIONAL ASSESSMENT

EXAMPLE TEST ITEMS

This enclosure contains selected test items from the areas of mathematics, reading and writing. National and regional results for 13-year-olds are shown on pages 10-11.

NAEP test items are developed to measure specific learning objectives considered to be important by scholars, educators and lay people. The items are also developed for various difficulty levels, thus allowing one to describe a broad range of achievement patterns. The items selected for this enclosure might be viewed as important basic skills items -- tasks that a relatively high percent of 13-year-olds should be able to successfully perform.

The math items shown are all computational skill items. The reading items measure understanding word meanings and the use of graphic and reference materials. The writing items measure students' ability to write in response to a wide range of societal demands, i.e. addressing an envelope, listening to a telephone conversation and writing a short note and writing a letter to the Parents' Club.

MATHEMATICS

1. Do the following problems:

A. Add:

$$\begin{array}{r} 38 \\ +19 \\ \hline \end{array}$$

B. Subtract:

$$\begin{array}{r} 36 \\ -19 \\ \hline \end{array}$$

C. Multiply:

$$\begin{array}{r} 38 \\ \times\ 9 \\ \hline \end{array}$$

D. Divide:

$$5\overline{)125}$$

2. Add the following numbers:

$$\begin{array}{r} \$\ 3.06 \\ 10.00 \\ 9.14 \\ 5.10 \\ \hline \end{array}$$

3. Do the following subtraction:

$$\begin{array}{r} 1,054 \\ -\ \ 865 \\ \hline \end{array}$$

4. A rocket was directed at a target 525 miles south of its launching point. It landed 624 miles south of the launching point. By how many miles did it miss its target?

ANSWER ________________

READING

1. People who run zoos sometimes put signs on animal cages to tell what the animals are like or where they come from. If you went to a zoo and saw these four signs on different cages, which one would tell you that there is a dangerous animal inside the cage? Fill in the oval beside the correct sign.

○ Inside this cage is one of the smallest animals found in America.

○ Inside this cage is an extremely ferocious animal.

○ Inside this cage is an animal that sleeps all the time.

○ Inside this cage is a rare type of eagle -- one of the few left in the world.

○ I don't know.

2. Read the sentence and fill in the oval beside the group of words which tells what the sentence means.

"I certainly won't miss that movie."

○ I like that movie.

○ I'm going to that movie.

○ I'm not going to that movie.

○ I hope I'll see that movie, but I don't know if I can.

○ I didn't see that movie, although it was here all fall.

○ I don't know.

3. Look at the labels from two cans of dog food. One can has more protein in it than the other. Fill in the oval below the dog food that contains more protein.

Ash	3%
Crude fiber	17%
Crude protein	65%
Crude fat	11%
Moisture	4%
Vitamin E	trace

PREMIUM DOG FOOD

A Beef Product

○

Ash	2%
Crude fiber	45%
Crude protein	20%
Crude fat	30%
Moisture	3%
Vitamin E	trace

HEARTY DOG FOOD

A Balanced Meal

○

○ I don't know.

4. Read the passage and answer the question which follows it.

Helen Keller was born in 1880 in Tuscumbia, Alabama. When she was two years old, she lost her sight and hearing as the result of an illness. In 1886 she became the pupil of Anne Sullivan, who taught Helen to "see" with her fingertips, to "hear" with her feet and hands, and to communicate with other people. Miss Sullivan succeeded in arousing Helen's curiosity and interest by spelling the names of objects into her hand. At the end of three years Helen had mastered both the manual and the braille alphabet and could read and write.

When did Helen Keller lose her sight and hearing?

○ 1880
○ 1882
○ 1886
○ 1890
○ 1900

○ I don't know.

5. Read the question and fill in the oval beside the correct answer.

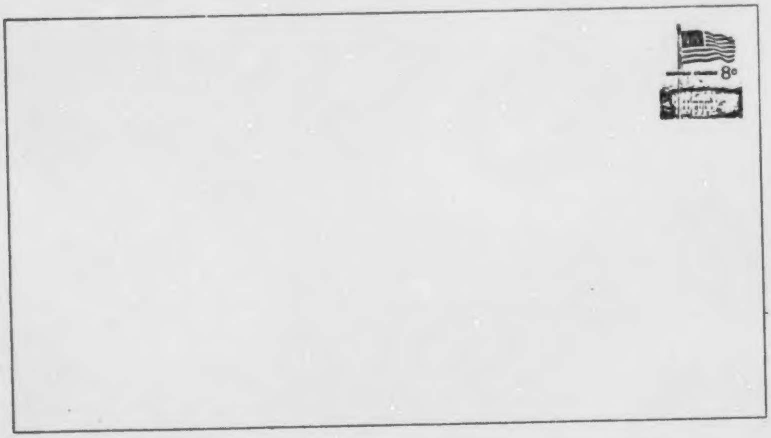
If you had to tell your class about windmills, which of these would be the BEST book to use?

○ An atlas
○ A dictionary
○ An encyclopedia
○ The Yellow Pages in the telephone book.

○ I don't know.

WRITING

1. Pretend that your name is Dale Roberts and you live at 1545 Lake Street in Narka, Kansas. The zip code for Narka, Kansas, is 66960. You have written a letter to John Way. He lives at 345 Moose Street, Nome, Alaska. The zip code for Nome, Alaska is 99762. Address the envelope below. Make sure you write down everything that should go on the envelope.



2. You are going to hear a telephone conversation between two boys, Sam and Al. During the conversation, you will discover that Al is going to have to write a note to another boy, Fred. Listen carefully to find out the things that Al will have to say in his note.

(NOW LISTEN TO THE CONVERSATION)

You will now have another chance to hear the conversation between Sam and Al. Listen to it carefully again and then, when the boys have finished talking, write the note that you think Al should write to Fred.

(NOW LISTEN TO THE PHONE CONVERSATION AGAIN)

3. Imagine the Parents' Club of your school is sponsoring a Friday evening dance for the eighth grade. The dance hours are from 7 p.m. to 9 p.m. Many students feel this is not long enough. Pretend you are Pat Smith and write a letter to the Parents' Club stating your point of view. Explain why you AGREE or DISAGREE with the idea of a dance from 7 p.m. to 9 p.m. Remember to take only ONE point of view. Space is provided below and on the next two pages.

4. Pat Brown has been asked by his class to invite Mr. Jones to come and speak about safety.

Look at the three invitations below. Fill in the oval beside the invitation which is BEST.

○

Dear Mr. Jones,

Our school would appreciate your speaking to us about safety at 9:30 a.m. next Tuesday, January 3, at Rayburn School. If you are free at this time, please accept our invitation.

Sincerely,

Pat Brown

○

Dear Mr. Jones,

I'm supposed to find out if you can speak to us at Rayburn next Tuesday, January 3 at 9:30? Please accept this.

Sincerely,

Pat Brown

○

Dear Mr. Jones,

Our school would like for you to speak to us about safety. Is that okay with you. We could have you on Tuesday of next week, and you could talk in our auditorium.

Yours Truly,

Pat Brown

○ I don't know.

NATIONAL ASSESSMENT RESULTS

(Percent Correct for 13-Year-Olds)

		Region of the Country			
Mathematics	**Nation**	**Northeast**	**Southeast**	**Central**	**West**
Item 1-Part A	94.3	95.5	93.0	94.5	94.1
Part B	88.9	92.1	87.8	90.0	85.5
Part C	82.6	85.7	78.4	85.8	79.7
Part D	88.5	91.8	85.3	90.6	85.7
Item 2	84.3	88.6	79.3	88.5	78.8
Item 3	80.0	83.4	75.3	82.0	78.6
Item 4	71.7	78.7	62.5	75.8	67.9
Reading					
Item 1	95.8	96.9	93.0	97.0	96.1
Item 2	76.1	74.9	74.8	80.5	73.5
Item 3	80.5	84.7	72.6	81.8	82.3
Item 4	84.1	84.5	77.9	89.2	84.2
Item 5	89.5	89.8	89.3	91.4	87.4
Writing					
Item 1					
Return Name	92.9	91.1	91.9	94.1	94.3
Return Address	91.6	92.4	88.5	93.4	91.3
Return City	90.4	90.5	87.7	92.0	90.6
Name	93.7	94.3	90.0	95.3	94.5
Address	92.6	94.1	89.7	93.6	92.4
City, State, Zip	90.9	91.7	88.0	92.1	91.1
All six parts correct	87.2	88.2	83.4	88.5	88.0

Writing, cont'd.	Nation	Region of the Country Northeast	Southeast	Central	West
Item 2					
Note mentions game	83.3	84.8	79.2	83.9	84.2
Note mentions time	59.8	64.4	50.7	63.6	57.8
Note mentions place	24.1	27.7	21.8	20.7	25.5
Note mentions all three	19.2	21.7	16.4	16.4	21.6
Item 3					
Unclear and unelaborated position	12.0	13.0	10.0	11.7	12.8
Clear but unelaborated position	22.8	23.6	24.8	24.3	18.2
Persuasive arguments and/or elaboration of position	60.6	59.3	57.2	61.3	69.2
Other	4.2	3.7	7.7	2.1	4.4
Item 4	86.3	83.5	84.1	87.7	89.6

NOTE: In addition to national and regional results, National Assessment also reports by sex, race, level of parental education and size and type of community.

Enclosure #4

A National Test: Considerations

Note: Senator Pell, Chairman, Subcommittee on Education, Arts and Humanities, conducted hearings on July 27, 1977, on the Quality of Education-Testing, 1977. One of the things Senator Pell was interested in was obtaining information about the need for and nature of an optional national test in reading, writing and computation. At the conclusion of the hearings, Senator Pell requested that the witnesses, Dr. Roy Forbes, Director of National Assessment of Educational Progress, and Dr. William Turnbull, President, Educational Testing Service, provide him with their thoughts "of what such an optional test should be" and what things should be considered in developing the test. This paper is National Assessment's response to Senator Pell's request. Two testing models are proposed which are designed to meet the needs delineated by Senator Pell and which could operate within the framework of the constitutional responsibilities of states for providing equal education opportunities to all students.

Three major political points emerge when discussing the development of a national test of achievement in reading, writing, and computation. They are:

1) Should the test be developed under direct control of the Federal government, i.e., should the government determine the content of the test?

2) Should test-related standards be established? If so, by whom?

3) Should administration of the test in a state or local school district be voluntary or mandated by the Federal government?

These points were discussed extensively in the mid-sixties by groups of distinguished educators and government officials during the planning of the National Assessment of Educational Progress. The answers determined by those educators shaped the assessment's design. The answers remain the same today.

Educators in the mid-sixties assumed the content and results of the assessment would reflect and have impact on the curriculum. In other words, reporting how well students performed on specific items would lead to more or less attention on certain curricular aspects. The assessment's potential impact on curricular aspects was not the primary concern, as this would be desirable. Potential control of the content of the assessment by the Federal government, however, was a concern. This remains a concern today.

The design of the assessment assured that this would not happen. Although financially supported by the Federal government through the National Center for

Education Statistics (NCES), the assessment is governed by a policy committee appointed by the Education Commission of the States. NCES does not dictate or approve the content of an assessment. Content is determined through a nationwide consensus process. The consensus process is accomplished by bringing together teachers, parents, administrators, and curriculum specialists to develop the content of each assessment.

The designers of National Assessment determined that static national standards, as opposed to standards based on progress, were not desirable. They based this conclusion on several points, three of which were:

1) Constitutionally, education is the prerogative of the states and the establishment of national educational standards would be an intrusion on this right and responsibility.
2) Static, minimum standards could lead to a lowering of educational expectations.
3) Standards could lead to indirect control of the curriculum.

Therefore, National Assessment was designed to provide information which could be related to standards set locally in terms of general goals for progress. National Assessment was designed to test and report on the knowledge, skills and attitudes of 9, 13, and 17-year-old students as well as young adults, ages 26-35. The primary purpose of the assessment was to measure changes in student achievement over time so that educators and government officials would know what progress was being achieved in reaching nationally accepted educational goals. The assessment was designed also to report the identity of groups of individuals in need of special consideration if all students were to receive an equal education and be given the opportunity to realize their full potential.

The designers concluded that the assessment should not be mandated but should be voluntary, i.e., school systems should not be required to participate. The constitutional responsibilities of the states and the potential of indirect curriculum control were the basis for this decision. Lately, mandated testing requirements have increased and are adversely affecting the school voluntary cooperation rate. It may become necessary to request that current voluntary programs also be mandated.

The issue of test-purpose is another major consideration in the design and developmental process of an assessment. Different purposes call for different types of tests as well as different test administration procedures. For example, tests may be used to diagnose knowledge and skill levels of an individual student, or to provide group data for local, state or Federal policy decision-making.

Information for policy decision-making does not require that every student be tested or that all students tested need necessarily respond to the same set of questions. Therefore, testing for decision-making purposes can and should incorporate certain economies pertaining to fiscal resources and student instructional time while providing an abundance of information. For example, National Assessment requires one classroom period of student time to respond to the assessment. Each student responds to a sample of the questions. If a student responded to all questions contained in an assessment, an additional eight hours would be required. The savings in student time and financial resources are great.

National Assessment items do not constitute a diagnostic test. If the purpose of testing is to determine achievement deficiencies or strengths of an individual student at one point in time, standardized tests, as well as state and locally developed tests, are available.

The designers of National Assessment recognized the various purposes of testing and decided the purpose of a national assessment should be to provide information useful for policy decision-making.

Model A (subsequently presented) is recommended if the purpose of a national test in reading, writing, and computation is to provide information for Federal and state level decision-making. If the purpose is to identify individual student deficiencies, then National Assessment does not recommend a national test but a continuation of the current practice by state/local education agencies of selecting commercially available tests or of developing tailor-made tests. It is further recommended that attempts be intensified to develop statistics for comparing test scores from various standardized tests, e.g., The Anchor Study.

Model B (subsequently presented) describes how National Assessment is responding currently to state and local education agencies who are interested in developing tests and having national/regional comparative data. Suggestions for expanding/improving the current services are included.

MODEL A

A national test of reading, writing, and computation should assess what students should know and be able to do. Statements (objectives) of desirable knowledge and skills should be developed using a national consensus approach. Teachers, school administrators, parents and interested lay persons should participate with curriculum specialists in the consensus process.

Each objective should address a specific area of knowledge, skill or attitude, but no attempt should be made to specify how many objectives should be successfully met by an individual student for that student to be judged minimally competent in reading, writing, and computation. The setting of standards should be the prerogative of state or local education agencies. This model would provide national and regional data which could be used as comparative reference points by state and local agencies.

Multiple items should be developed to measure each objective. The items should be reviewed for possible cultural bias and field tested thoroughly. The selection of items to be included in the national test should follow the same consensus process used in the development of objectives.

The test should be administered to a national sample of students to provide a national yardstick which could be used by Federal education policy-makers. The test should be administered by a non-government agency. To protect the security of the test and provide uniformity of test administration, state and local school personnel should not have the responsibility for test administration.

States should have the option of having the national sample within their state expanded to provide state level data. The cost of the expanded sample could be jointly shared by the Federal and state governments.

States opting to expand the sample within their state would be able to use the national data as a yardstick for a comparison between national and state data. To insure test security and uniformity of administration, the same independent agency collecting and reporting national data or a network of independent agencies should conduct these concurrent and expanded state testing programs.

Local education agencies also should be provided with the expanded sample option. The cost of testing could be shared jointly by the Federal government and the local district. Analyses and reporting should be the responsibility of an independent agency(ies), but not necessarily the agency involved in national and state testing.

The design of Model A is based on a proven approach for providing national yardstick data, that is, the National Assessment of Educational Progress. Therefore, the model could be implemented with minimal difficulty. Several current activities would need to be expanded while only two new activities would need to be initiated. The new activities are:

1) Develop and implement procedures for working with state and local agencies who opt to participate in the expanded testing program.
2) Develop and implement procedures for working with other independent agencies involved in the collection and reporting of national test data.

The expanded activities are:

1) Develop an objective and item pool designed specifically for the national test purposes. Many of the objectives and items which would probably comprise this pool are currently available through National Assessment and state assessment programs.
2) Select objectives and items for the national test using a national consensus approach.
3) Administer, analyze, and report national and regional test results.
4) Provide technical assistance to state and local agencies interested in using the national test data as a comparative yardstick. Concise, self-explanatory documentation would need to be prepared as a means of providing a cost-efficient process for technical assistance.

MODEL B

National Assessment currently has available 1,780 objective related items which may be used by state and local education agencies interested in developing tests tailored to their unique needs. National and regional performance data, as well as information pertaining to administration and scoring, are available for each item. Objective booklets are available for reading, writing, mathematics, science, social studies, citizenship, literature, art, music, and career and occupational development.

National Assessment also has available documentation of procedures for those systems interested in replicating the procedure used in the national assessment. Close replication provides those systems with data which can be compared more accurately with national and regional results.

By using items provided through National Assessment, it is possible for a local or state education agency to collect data and use the national or regional data as a comparative yardstick. The items can be used in developing tests for either diagnostic or policy purposes.

The current National Assessment service could be expanded by:

1) Developing, through a national consensus approach, a specific pool of objectives and related items in reading, writing, and computation for use by state or local education agencies in test development.

2) Collecting and reporting national and regional data on items in the pool described above to provide state and local education agencies with a yardstick.

3) Providing state and local education agencies with increased technical assistance in how to most efficiently and effectively use the objectives, items, data, and methods available through National Assessment.

BLOOMINGTON WRITING ASSESSMENT

1977

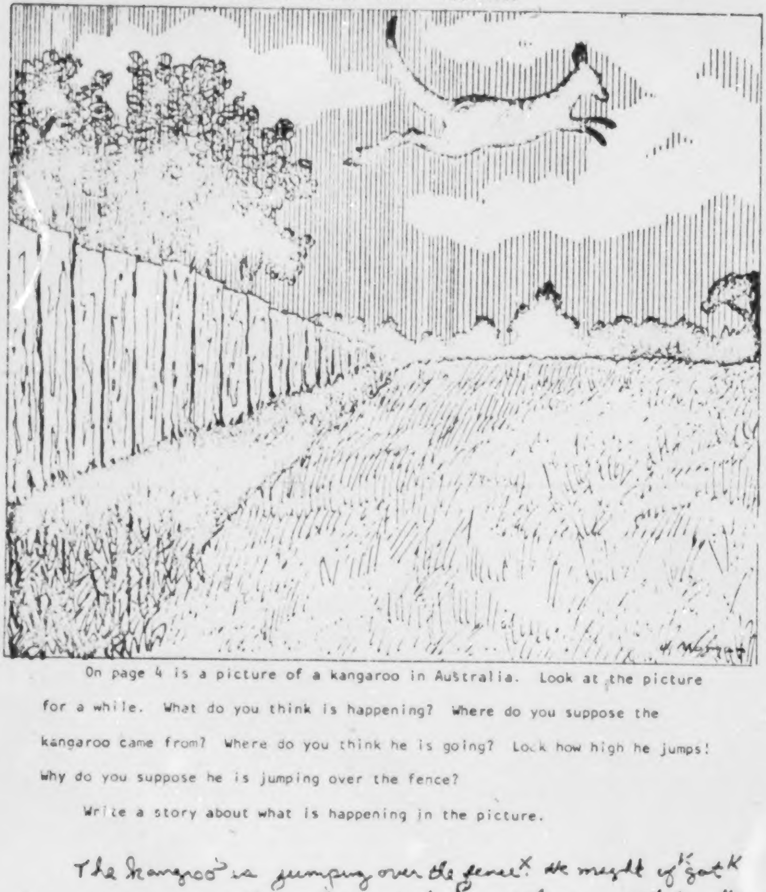
BLOOMINGTON PUBLIC SCHOOLS
10025 Penn Avenue South
Bloomington, Minnesota 55431

Fred M. Atkinson
Superintendent of Schools

Orville Ruud
Data Processing - Evaluation

EXERCISE EXAMPLE

SECONDARY WRITING TRAIT - MECHANICS



On page 4 is a picture of a kangaroo in Australia. Look at the picture for a while. What do you think is happening? Where do you suppose the kangaroo came from? Where do you think he is going? Look how high he jumps! Why do you suppose he is jumping over the fence?

Write a story about what is happening in the picture.

The kangroo is jumping over the fence.^{X} He might of^{K} got^{K} away from the zoo. And also something might be after him.^{X} Sumething might be going to hurt him.^{X} The kangroo might be hurt and can not walk. The kangroo might be see^{K} who can jump the heghest^{S} over the fence.^{X} And he might be after [some one] or something.^{X}

SCORING

10/104 Spelling Errors
3/104 Usage Errors
No Capitalization Errors
No End mark Errors
1/11 Punctuation Errors

SAMPLE RESULTS

	S-Spelling Errors per word			K-Word Choice Errors per word			C-Capitalization errors per word		
	More than 4%	4%-1%	Less than 1%	More than 4%	4%-1%	Less than 1%	More than 2%	2%-½%	Less than ½%
Bloomington 4th Grade	62%	30%	8%	8%	22%	70%	16%	24%	61%
Staff-citizens Standard Minimum	35%	55%	10%	30%	50%	20%	50%	45%	5%
Desired	25%	60%	15%	20%	55%	25%	25%	60%	15%

	S-Spelling		K-Word Choice	
	Errors / Essay	Errors / 100 wds.	Errors / Essay	Errors / 100 wds
Bloomington 4th Grade	5.0	6.3	.8	1.0
National 9-year-olds	4.1	8.4	.5	1.0

SAMPLE ANALYSIS

TRAIT	JUDGEMENT		
	National	Standards	Overall
Spelling	Strength	Need	Probable Need
Word Choice	Acceptable	Strength	Strength
Capitalization	Not Applicable	Strength	Strength

SAMPLE CONCLUSION

Capitalization and word choice in context are strengths for Bloomington students. Student performance in spelling, while not meeting the rigorous staff-citizen standards, does compare well with that of National 9-year-olds. Lessons for such spelling improvement should be writing assignments rather than word lists.

1 DESCRIBE GOALS AND TESTING CONSTRAINTS

WHAT IS WRITING?

A writing steering committee clearly described "What is writing" from the Bloomington writing curriculum.

WRITING ASSESSMENT TASK FORCE

June 1976

Definition of Writing and Writing Assessment

WHAT IS WRITING?

Writing is the recording and preserving of language and the transmission of ideas. Writing is subject to certain organizational and mechanical conventions. Although writing purposes differ, all writing situations presuppose the existence of a message and an audience, and all must be evaluated in terms of their appropriateness in those situations.

The different purposes for which one writes -- recording information; responding to a situation established for the writer; expressing a personal observation (for either oneself or another); or attempting to persuade the reader to do or believe something -- share some attributes to qualify as acceptable, but also have distinctive attributes related to their pusposes.

PRIMARY WRITING TRAITS

The recording of information (lists, instructions, directions, proposals, minutes, etcetera) must be clear, coherent, and complete.

Responding (answering a test item; completing a questionnaire; writing an assigned paragraph of comparison, etcetera) must be appropriate for the situation established. That is, the writing must be well enough organized, developed, and expressed to satisfy the expectations established in the situation.

Expressive writing must be true to its intention. For example, if a poem attempts to recreate an emotional experience, it must do so to a degree that enables different readers to feel they have experienced the situation as the writer intended it to be perceived.

Persuasive writing must have sufficient cogent and relevant data, expressed in a tone appropriate for the audience for which it is intended.

SECONDARY TRAITS

Mechanical accuracy includes such language skills as paragraphing, sentence structure, capitalization, punctuation, spelling, word usage, and agreement. Mechanical accuracy should be measured in terms of these skills.

TESTING CONSTRAINTS

The steering committee prescribed constraints and expectations to be observed by a task force in designing the tests. These included:

Constraints:
- 45 minutes of testing time
- One test experience per/pupil per class
- National exercises should be used
- The test situation should approximate the general writing environment.
- The test should be able to be administered by teachers.

Expectations:
- Growth between 4, 8, 11 will be measured in overlap exercises (some exercises identical).
- Exercises must have a field test.
- A test administration manual for teacher use.

2

SELECT NAEP ITEMS AND DESIGN THE TEST

A writing evaluation task force selected appropriate released exercises from the National Assessment of Educational Progress (NAEP) and organized them in this manner into test booklets.

Education Commission of the States

I-RECORDING	II-RESPONDING	III-EXPRESSION	IV-PERSUASION	V-MECHANICS
TELEPHONE *201014-400 (Packet A)	THANK YOU LETTER 201002-481 (Packet D,D,D)	MUSIC ***101003-081 (Packet D,B)	PARENT'S CLUB 201004-481 (Packet B,E,C)	KANGAROO 10213-400 (Packet A,B&E)
TELEPHONE *201018-081 (Packet D,B)	ADDRESS ENVELOPE 201021-480 (Packet C,E)	TENNIS SHOES 101013-481 (Packet D,B,A)	WOMAN'S PLACE 203014-481 (Packet E,E,B)	FAMOUS BUILDIN 203012-081 (Packet A&B A&
ACCIDENT REPORT 8-01-481 (Packet A,C,C)	JOB LETTER 202013-001 (Packet C)	MOON REPORT **203008-480 (Packet C,C)		
	LETTER TO CLASSMATE 201017-481 (Packet E,A,B)			

201002 indicates that this is item number 201002 from the National Assessment.

481 indicates the item was not assessed nationally for 8th grade or 11th grade but was used in grades 4, 8, and 11.

(Packet D,D,D)

Indicates this item was in packet D grade 4, packet D grade 8, and packet D grade 11.

A test packet had two to four items and could be completed in about 45 minutes of testing.

* Uses telephone conversation on tape.

** Uses blue pens for a student editing and revision

3

TEST, SCORE, AND SET STANDARDS

TESTING

Every 4th, 8th, and 11th grade pupil participated in the writing assessment. A sample of 294 grade 4 pupil tests, 383 grade 8 pupil tests, and 418 grade 11 pupil tests were randomly selected for scoring.

SCORING

Ina Mullis, NAEP and Sue Worthan trained Orville Ruud and Rosemary Schneiderhan in NAEP scoring and scorer training procedures. Scorers in Bloomington were trained by Orville Ruud and Rosemary Schneiderhan. The scorers scored training exercises, and worked in pairs to score all tests. The scoring of every 5th test was reviewed by Orville Ruud.

STANDARD SETTING

A group of citizens and teachers identified levels of minimum and desired student performance.

RATING OF EXPECTED PERFORMANCE

IV PERSUASION

	4th (201004		8th (201004)		11th (201004)	
ARGUMENT (Total 100%)	Minimum	Desired	Minimum	Desired	Minimum	Desired
Does not take a clear position						
Takes a clear position						
Takes a clear position & gives one unelaborated reason						
Presents arguments & supports them						

4

ANALYZE AND REPORT RESULTS

A citizen-staff committee analyzed the results and wrote recommendations.

I. Strengths and Needs

The citizen-staff committee reviewed the preliminary report of student achievement, national achievement, and performance standards. They made judgements of strengths and needs from these results.

II. Issues, Concerns and Recommendations

Data, issues and recommendations were described following the identification of strengths and needs.

ANALYSIS AND REPORTING WORKSHEET

ISSUE

SOURCE

EVALUATION CRITERIA OR BASIS FOR JUDGEMENT

Original

Data Source:

Additions

Data Source:

RECOMMENDATIONS

III. Reporting

A comprehensive repor and a concise executive summary is to be presented to the staff and to the school board in September. The community will receive the report through news media and school district newsletters.

NEXT

The writing assessment recommendations suggest action. This will happen in Bloomington through a review of writing curriculum by the District Curriculum Committee. Building principals will consider evaluation of their writing programs and a review of their emphasis on writing.

PERSONS AND GROUPS WHO ACCOMPLISHED THIS WRITING ASSESSMENT

Design of the Writing Evaluation

Writing Assessment Steering Committee

Dr. Patricia Dahl RV
Ms. Donna Duffy OL
Ms. Marcia Fridland LN
Mr. Donald Hegg PT
Mr. Earl Lyons JF
Ms. Cornelia Nachbar JF
Mr. William Sullivan OG
Ms. Marion VanHaur KN
Ms. Marilyn Vince[illegible] WW

Advisors

Dr. Don Sension - Hopkins Schools
Mr. Charles Caruson - Hopkins Schools
Dr. Orville Ruud - Bloomington Schools

Selection and Writing of the Assessment Items

Writing Assessment Task Force

Ms. Michaela Hines PB
Ms. Elizabeth Bruggemeyer PN
Mr. James Colwell JF
Mr. William Sullivan OG
Ms. Marilyn Vincent WW
Ms. Marilyn Wilhelm LN

Advisors

Dr. Rosemary Schneiderhan
MN Dept. of Education
Dr. Vernon Achtermann, NAEP
Ms. Ina Mullis, NAEP

Administration of Writing Tests

Grade 4 Teachers
Grade 8 Language Arts Teachers
Grade 11 Language Arts Teachers

Scoring and Processing

Test Scorers

Ms. Carla Roth
Ms. Marceline Davidson
Ms. Mary Sullivan
Ms. Helen Gonzalez

Advisors

Ms. Ina Mullis, NAEP
Ms. Susan Worthan MRC
Dr. James Lindsay TIES
Mr. Tom Allen TIES

Analysis and Reporting

Mr. Waldo Asp
Ms. Jeanne Huss
Ms. Arlene Bush
Ms. Charles DeCorsey
Ms. Richard Helmberger
Ms. Judy Anderson
Ms. John Nauman
Ms. Marilyn Wilhelm
Ms. Marion VanHaur
Ms. Cornelia Nachbar
Dr. Patricia Dahl
Ms. Marilyn Vincent
Mr. William Sullivan
Ms. Donna Duffy
Mr. Donald Hegg
Ms. Elizabeth Bruggemeyer

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Education Commission of the States

NAEP NEWSLETTER

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Vol. X April 1977 No. 2

Taking a Hard Look

Study Traces Achievement 'Profiles'

What do today's students know ... and what can they do?

- 9-year-olds have learned many things in their first few years of schooling such as the basic reading and writing skills.
- 13-year-olds can read, write, add, subtract, divide and multiply — if told to do so. But they don't, by themselves, use these skills in order to solve everyday problems.
- 17-year-olds have mastered the basic skills and know many specific facts in all school subjects, but they have difficulty organizing and applying their skills and knowledge.

These are some of the highlights from a study by National Assessment that summarizes results from all previous assessments to develop a profile of each age group.

NAEP found that 9-year-olds can read simple stories and write letters to their friends, and they know a variety of subject-matter facts. They are tolerant of people's cultural differences and believe in an orderly society. Over the last seven years, the reading and writing skills of 9-year-olds have improved.

Paradox of the 13-year-old

Thirteen-year-olds, according to the NAEP report, have the skills and knowledge necessary to accomplish routine tasks at home and at school. They have developed some study skills and know a variety of useful facts; however, the idea that they could use these skills and knowledge to make their daily lives more interesting and productive is not always obvious to them. The study found that 13-year-olds can read and understand short, straightforward materials and recognize the main idea of a relatively long reading passage. They also know how to use basic reference materials.

"Compared to 13-year-olds at the turn of the century, the fact that today's 13-year-olds have such a variety of skills and knowledge could be considered quite encouraging," said Ina V. S. Mullis, analyst with National Assessment. "However, 13-year-olds, in general, do not realize the potential uses of the skills and facts they have learned."

Meanwhile, among 17-year-olds...

Seventeen-year-olds, according to the NAEP study, have some knowledge of the world of work, have thought about their futures and know what attitudes and behaviors are expected of them in our society. They know a number of facts about our government and legal system and know a number of specific scientific facts. They have difficulty reading long passages and have limited vocabularies in writing.

"Seventeen-year-olds can read, write and compute in well-structured situations," said Don Phillips, NAEP analyst, "but they have difficulty applying their knowledge to new situations. They don't do well on problems that require more than one step and can't organize their thoughts in writing. Indications are that 17-year-olds' knowledge levels have slipped slightly over the past seven years," he added.

"To summarize what 9-, 13- and 17-year-olds know and can do, we identified questions answered correctly

(continued on page 2)

'Profile of Three Ages'

Taking a Look at Student Achievement

(continued from page 1)

by more than two-thirds of the students, questions answered by some (approximately 33-67%) and questions answered correctly by very few (less than one-third) of the students in each age group," Susan Oldefendt, NAEP analyst, said.

According to this breakdown:

Many 9-year-olds can:
- Tell time.
- Add two-digit numbers.
- Tell the difference between even and odd numbers.
- Name the President and generally know how he is chosen.
- Read and comprehend literal facts in simple, brief stories.
- Write without making punctuation or word choice errors.

But few 9-year-olds:
- Can subtract three- and four-digit numbers.
- Can do multiplication and division or understand fractions.
- Know the head of a state is called a governor.
- Understand detailed written instructions.
- Can organize and elaborate ideas in writing.

Many 13-year-olds:
- Can add, subtract, multiply and divide whole numbers.
- Can make change.
- Understand basic facts about the solar system and universe.
- Know the functions of the major parts of the body.
- Have had paying jobs.
- Understand the basic functions of the court system.
- Know how to use basic reference materials.

Some 13-year-olds:
- Understand and compute with fractions and work word problems.
- Can manipulate algebraic expressions.
- Understand basic nutrition.
- Understand specific facts about the earth.
- Can read and understand detailed instructions.

But few 13-year-olds:
- Can organize and elaborate on ideas in writing.
- Understand the structure and function of the legislative branch of government.
- Understand the basic principles of economics.

Many 17-year-olds:
- Can add, subtract, multiply and divide whole numbers and decimals.
- Can multiply fractions.
- Can calculate a simple average.
- Can solve simple word problems requiring multiplication.
- Can evaluate simple algebraic expressions.
- Know the names of the particles that make up an atom.
- Understand some facts about nutrition, illness and disease.
- Understand some functions and limits of the executive and judicial branches of government.
- Can read and understand short, straightforward materials such as newspaper ads and telephone bills.
- Can read and understand directions and instructions.
- Have mastered the mechanics of writing.

Some 17-year-olds:
- Know about human reproduction.
- Can convert decimals to common fractions.
- Can add fractions.
- Can organize and elaborate ideas in writing.
- Can make inferences after reading a long paragraph.

But few 17-year-olds:
- Can calculate the area of a square given its perimeter.
- Can simplify algebraic expressions.
- Can convert Fahrenheit to Centigrade given the conversion formula.
- Know the functions of the legislative branch of government.
- Know why a large amount of mineral fertilizer placed around a plant will cause it to wilt and die.
- Have discussed aptitude test results with anyone who could advise them about career plans.
- Can write excellent unified and focused essays.

"Even though most 17-year-olds feel they are good readers," said Roy H. Forbes, director of National Assessment, "only half are able to read college freshman-level materials. They all believe in social equality and changing unfair laws, but again only half take part in school politics. A nagging doubt about 17-year-olds," Forbes added, "is whether or not they take the time to relate their ideas and concepts to adult life."

* * *

A limited supply of *What Students Know and Can Do, Profiles of Three Age Groups* is available from National Assessment headquarters, Suite 700, 1860 Lincoln St., Denver, Colo. 80295.

Innovations Expand Horizons of Rhode Island Assessment Plans

Rhode Island may be short on space, but it's long on vision when it comes to concern for the education of its youth.

Active in education assessment for more than a decade, the state last year made some innovative departures from methods used in earlier evaluations.

For the first time, 17-year-olds were added to assessment efforts that had previously been limited to fourth- and eighth-graders. In addition, the older teenagers were assessed by NAEP-type "criterion-referenced" tests, which measure skills according to objectives predetermined by Rhode Island educators. The two younger age levels continue to be assessed by standardized tests that determine competencies that are expected by grade levels.

Sampling the whole

Another new angle for Rhode Island assessment is the switch to a probability sampling of students, such as is used in National Assessment surveys, instead of testing all students in a particular grade/age level. Prior to last year's assessment, Rhode Island surveyed all fourth- and eighth-grade pupils throughout the state.

Also new last year were student and school questionnaires that covered topics ranging from home environment and spare-time activities to parents' jobs and involvement with their children's school work, the youths' own future schooling and career aspirations and characteristics of each student's school.

The result: a data package filled with new types of information never before available to state education policy makers and the public.

The combination of standardized and criterion-referenced testing, plus the com-

(continued on page 5)

Details Listed For Reports

Three new NAEP reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

- *Right to Read — Functional Literacy: Basic Reading Performance, Brief Summary and Highlights*. S/N 017-080-01665-6, $1.25.
- *Explanatory and Persuasive Letter Writing* (selected results from the second national assessment of writing). NAEP Report No. 05-W-03, S/N 017-080-01666-4, 90 cents.
- *An Assessment of Career Development: Basic Work Skills* (selected results from the first national assessment of career and occupational development). NAEP Report No. 05-COD-02, S/N 017-080-01687-7, $1.10.

All orders must include report titles, numbers and serial numbers (S/N) and check or money order. Allow up to eight weeks for delivery.

An updated NAEP publications list may be obtained from National Assessment offices, Suite 700, 1860 Lincoln St., Denver, Colo. 80295.

Bridging the Gap

Grant to Aid Data Flow Study

National Assessment is about to undertake its own exercise in systematic communication.

Far from the usual NAEP "exercise," or test item, in this case the effort means the study of how the three highly technical fields of medicine, agriculture and economics have bridged the gap between the collection of data, the subsequent refinement of policies and procedures and, finally, the development of practices based on the original data.

Can these same intricate principles of data input and systematic output of information, which lead to informed decisions, be applied to the specialized area of education assessment?

Ford Foundation award

To help find out, the Ford Foundation has awarded a grant of approximately $25,000 to National Assessment.

During the next few months, consultants in the areas of agriculture, medicine and economics will share their expertise with a National Assessment researcher. Resulting case studies will allow a scientific view of the flow of information that threads through each discipline's various stages of research, organization, refinement and dissemination.

Next comes the pinpointing of similar — and dissimilar — data collection and data use that are already standard practice in the three "model" fields and that could be adapted for use by the education community.

Finding the common bond

The analytic phases of the project will culminate with a set of recommendations that should help span the chasm between education assessment programs, educators, decision makers and the public.

Says NAEP Director Roy H. Forbes: "Education assessment technology has the tools to collect data that education needs and the public wants. Unless we somehow effectively communicate these findings, education assessment programs will continue to gather information that is underutilized.

"Through this new research by National Assessment, we hope to systematically find solutions to reverse that situation," he concluded.

THIRD WRITING SURVEY gets attention of Edward White, right, professor of English at California State College, San Bernardino, and, at left, Martin Nystrand, director of the Language Arts Assessment Project, Ontario (Canada) Institute for Studies in Education. The two are among key figures aiding in development of 1979 assessment. Findings will indicate how American youths' writing skills have fared since previous assessments in 1970 and 1974.

MATHEMATICS literacy as effective way to expand opportunities for minorities and women is a top concern of Lucy W. Sells, executive specialist for the American Sociological Association, Washington, D.C. She shared ideas on recent visit with Donald T. Searls, NAEP associate director for Statistical Methods.

Downbeat on Second Music Survey

The tempo is picking up as National Assessment readies for its second survey of music. To be given during the 1978-79 school year, the assessment will include items measuring both music attitudes and achievements of U.S. students at ages 9, 13 and 17.

Pictured here are four experts from among many of the nation's top music educators who have been involved in determining precisely what the new NAEP music study should assess.

... Bennett Reimer, director of music education, Case Western Reserve University, Cleveland, Ohio.

... Paul Lehman, professor of music, University of Michigan.

... Richard Colwell, professor of music, University of Illinois.

... Eunice Boardman, professor of music, University of Wisconsin.

Review Science Findings

Decline Data Outlined at National Meeting

CONCERN over declining science achievement was voiced by Marie D. Eldridge, administrator of the National Center for Education Statistics, which funds NAEP. She was a key speaker at symposium on science knowledge held during 143rd annual conference of the American Association for the Advancement of Science.

Declines in science knowledge, as reported by National Assessment, were detailed at the 143rd annual meeting of the American Association for the Advancement of Science. Nearly 5,000 AAAS members were in Denver to explore "Science and Change: Hopes and Dilemmas" during the week-long February conference.

At the symposium "Public Knowledge of Science — NAEP," Robert C. Larson, director of the NAEP Department of Analysis and Research, outlined achievement trends detected in NAEP assessments of science, as well as in reading and writing. He linked the three disciplines, he said, "because despite the declines of a generation of 13- and 17-year-olds in science, the improvement in 9-year-olds in reading and in writing could signal an increase in achievement levels in science." (See Larson's "Percentages . . . and Other Points" column, page 7, for additional symposium remarks.)

Words of warning

A strong warning came from a second speaker, Marie D. Eldridge, administrator of the National Center for Education Statistics, which funds National Assessment.

"Declines in science achievement are real and pervasive," she declared. "It is hoped that the current NAEP data and those that will be available in the near future will alert policy makers at all levels of government to problem areas, as well as to areas or approaches worthy of further study.

"NAEP cannot provide all the answers," she noted, "but it should be one of the leading indicators as to what kind of progress we are making in education in the United States."

Science courses: boring?

Another symposium participant, Arthur Livermore, who heads the AAAS office of science education, said in a premeeting interview that schools aren't doing what they could to keep science from boring students who do not intend to make science their careers. A consultant to NAEP for development of science assessment items, Livermore feels that there is a lack of unified courses that weave all the sciences together around interesting topics, such as energy.

"It's not enough to give nonscience students basic understandings of science," he said. "If it's just a textbook course, it can be dull. A discovery approach, where students are encouraged to solve problems for themselves, is better."

The National Assessment symposium was sponsored by AAAS groups concerned with education, psychology, statistics, social and economic sciences and the history and philosophy of science.

Rhode Island Adds New Bonus To Education Assessment Effort

(continued from page 2)

prehensive background questionnaire, was pilot-tested in the 1975-76 school year. Fourth- and eighth-grade students were tested primarily in reading, language, mathematics and work-study skills.

The survey of 17-year-olds covered eight learning areas: reading, mathematics, science, writing, citizenship, career and occupational development, health and consumer economics ("shopping with preparedness and economy"). Approximately 30 percent of the items given the 17-year-olds were from National Assessment, making it possible for state educators to compare the Rhode Island teenagers' achievements with their national counterparts.

New assessment under way

Similar methods are being used in Rhode Island assessment this year. Fourth- and eighth-graders continue to be tested as before in language, mathematics, reading and work-study skills.

The 17-year-olds, however, are being assessed in three cognitive "life skills" — comprehension, analysis and evaluation — again by means of criterion-referenced tests. State department of education plans call for phasing eighth-grade pupils into the life skills assessment during the next two years.

Results from the current statewide study are expected to be released in October.

Findings from last year's state assessment have spurred Rhode Island educators to seek means to correct faults pinpointed by survey data, as well as ways to maintain strengths. Says Janice M. Baker, acting coordinator of Support

(continued on page 6)

NAEP SYMPOSIUM traced national achievement trends for delegates to Denver conference of American Association for the Advancement of Science. Here, Robert C. Larson, director of National Assessment Analysis and Research Department, discusses data collected in science, reading and writing surveys.

Experts in Major Role for Adult Study

Noted consultants give full attention to assessment items dealing with awareness of energy crisis and conservation prior to kickoff of NAEP's mid-1977 survey of young adults. Nearly 1,500 young Americans, ages 26-35, will be involved in the study.

YOUNG ADULT assessment will cover diverse topics of energy, health, science and reading, the greatest number of topics ever surveyed by NAEP in a single year. Consultants working with energy portion of assessment have included Isabelle Weber, staff specialist, Energy Department, League of Women Voters; Donald D. Duggan, center photo, chief, Educational Programs Branch, Office of Public Affairs, Energy Research and Development Association; and John M. Fowler, director, National Science Teachers Association, all of Washington, D.C.

'Something Extra'

Rhode Island Assessment Moves Ahead

(continued from page 5)

Services, Rhode Island Department of Education.

"The primary focus for the data is policy making. Findings are reported to the state Board of Regents for review and action. Policy alternatives being looked at include three dealing with basic skills: increasing instructional time, establishing minimal competency levels and continuing the basic skills programs that have been recently initiated."

Other alternatives, she said, deal with expanding the Title I (compensatory education) approach to all students, increasing parental interest in and support of student achievement and facilitating more judicious use of television for children.

"For the alternative or alternatives selected," Baker continued, "plans will be developed for implementation."

Using the data

"Additional use of the data will be encouraged through key state groups, such as school superintendents and the reading, mathematics and English teacher associations, as well as the state Parent-Teacher Association," she explained.

Baker pointed out that the department of education provides technical assistance to any Rhode Island group wanting to use the assessment data.

National comparisons

In comparing results of the 1975-76 state assessment with NAEP's findings in the same learning areas, it was found that Rhode Island 17-year-olds are above national levels in several reading tasks and below in others. In mathematics, the teenagers are more knowledgeable than their contemporaries nationwide about the metric system and compare favorably in general computation. They are below national performance in citizenship — especially in understanding the organization of federal and state government — and in consumer economics.

Standardized testing results show that Rhode Island fourth-grade students generally are at or above the expected grade level in the areas assessed, while the eighth-graders are somewhat below.

Australian Study

Concern for youths' skills in the "three R's" knows no geographic boundaries . . . nor does National Assessment when it comes to helping measure those skills. Latest example: Australia.

That country recently completed a nationwide survey of the reading, writing and arithmetic abilities of 10- and 14-year-olds in more than 600 schools. About 7,000 students at each age level were involved.

The report on findings from the Australian study "acknowledges" considerable debt to National Assessment" both in developing program objectives and use of several NAEP test items.

Aimed at gauging competency in "literacy and numeracy," the Australian assessment found that in reading skills there is no marked difference in performance levels in comparison with the students' contemporaries either in the United States or in Britain.

However, deficiencies were noted in writing abilities. According to the report, a majority of both the 10- and 14-year-olds are competent in simple writing situations. But, the report says, some important and quite specific writing tasks, such as the writing of formal letters to apply for jobs, "have not been mastered by large numbers of students."

In numeration, 90 percent of the Australian 10-year-olds are able to do simple calculations with whole numbers on tasks that are particularly relevant and useful in everyday life. Performance of the 14-year-olds is "disturbing," the report notes, with large numbers of the teenagers unable to do simple calculations. An even lower level of achievement was recorded for the older students in more complex math problems. "The fact that Australian 14-year-olds perform no better than 13-year-old students in the United States is . . . a matter of some concern," the report writers declare.

In Reference to . . .

National Assessment data are drawn upon in a two-page article, "Functional Illiteracy in the United States," appearing in the *1977 Britannica Book of the Year*, special supplement of the *Encyclopedia Britannica*.

The feature, which scans findings from various nationwide studies that point to deficiencies in the education of U.S. youths, also includes two sample exercises from a NAEP reading assessment.

The article was written by George Weber, associate director of the Council for Basic Education.

PERCENTAGES

. . . and other points

from the Analysis and
Research Department

Public Knowledge of Achievement Trends

By Robert Larson
Department Director

The following is extracted from a paper presented at the symposium "Public Knowledge of Science – NAEP" during the 1977 annual meeting of the American Association for the Advancement of Science.

The basic National Assessment measure of progress is the change over time in the percent able to respond correctly to an item. This measure is particularly suited to providing information about the achievement of such national goals as (1) increasing the number of disadvantaged children who can at least read for basic literal comprehension; (2) increasing the science literacy of more adults who will vote on energy and conservation issues; (3) or increasing the number of 17-year-olds who know what they need to about constitutional rights, government and the political system in order to function as participating citizens in the future.

Changes in percentages can make us aware of our progress toward goals like these and how far we have to go to reach them. Public knowledge of what the public knows is an important step in creating a climate for legislators and other education policy makers to make wise decisions about plans and resources.

In a national climate of concern about declining achievement test scores confirmed by the declining science trends at ages 9, 13 and 17, we see some hope that we are making progress toward some national goals. Though equality of education opportunity was the main reason for the court-ordered desegregation in the Southeast, improvement in education outcomes is an important measure of progress toward the goals of the desegregation effort. The increase in average percentage correct on science and reading items for 9-year-old Southeastern blacks in the midst of generally declining trends is encouraging.

A step forward

Other national goals are reflected in federal programs aimed at helping disadvantaged children at the elementary school level. At age 9, the decline in the percentage of poor essays and the decrease in gaps between advantaged and disadvantaged groups in science and reading indicate progress in measurable steps toward these goals in the first half of the 1970s.

At the same time we have declines in outcomes for a generation of children: a general decrease in science knowledge at all three ages, an increase in the percentage of poor essays at age 17, a decline in the higher-level inferential reading skills among children of well-educated parents at age 13 and 17, an increase in the reading gap between whites and blacks in regions other than the Southeast and the apparent large decrease in reading percentages of races other than black or white outside the Southeast region.

In a nation where citizens participate in decisions regarding atomic energy plants, energy conservation, basic research in genetics, etc., it is even more important that we become a science-literate public. For those disadvantaged groups that historically have achieved lowest, it is important that more, not fewer, learn the reading and writing skills necessary to go to college, learn a new job and be able to compete in chosen fields of work.

An optimistic sign?

We also see improvements in writing and reading skills of most 9-year-olds that could signal an increase in achievement levels in science and other areas that depend on these skills. We see that the historically lowest-achieving groups are catching up. On the other hand, we cannot ignore the possibility that these gains at age 9 may not be sustained at ages 13 and 17 and that the declines will continue.

While the percentages we report tell us how far we have come and how far we have to go in achieving these education goals, insightful analyses inquiring about the mechanisms influencing outcomes on a national scale are needed to predict which of these possibilities is the most likely. Given the remarkable consistency of patterns of performance from year to year, assessment area to assessment area, among groups and between ages makes me optimistic about our future prospects in obtaining a useful description of education outcomes and national trends.

READING comprehension and interests of cognitive psychologists were among topics discussed with NAEP staff by Wilbert J. McKeachie, professor of psychology, University of Michigan. McKeachie was in Denver in conjunction with annual meeting of American Association for the Advancement of Science.

Mosteller Resigns

John Gilbert to Head ANAC

Frederick Mosteller, chairman of National Assessment's Analysis Advisory Committee (ANAC) for more than three years, has resigned to devote more time to duties as new head of the Department of Biostatistics, School of Public Health, Harvard University.

John Gilbert, staff statistician at Harvard, succeeds Mosteller as ANAC chairman, and, as such, automatically becomes a member of the National Assessment Policy Committee.

Mosteller and Gilbert both joined ANAC in 1970. Committee membership at that time consisted of Robert Abelson, Yale University, William Coffman, University of Iowa, Lyle Jones, University of North Carolina, and John W. Tukey of Princeton University, then chairman of ANAC. Together the six men supervised analysis of findings from NAEP's first science assessment and coauthored the first three major science reports.

In 1973, ANAC split into two parts. Mosteller became chairman of the new ANAC, and, under his leadership, the group evolved from concentrating on statistical analysis of NAEP data to being increasingly concerned with methods by which assessment findings can aid those who determine education policy.

Meanwhile, the second group – the Specialized Analysis Advisory Committee (SPANAC) – pioneered analysis of repeat assessments in science, which led to change-over-time data. Headed by Tukey, SPANAC includes Jones and all ANAC members.

Besides Gilbert, the active 1977 ANAC membership includes Vice Chairman Janet Flashoff, research statistician, University of California, Los Angeles, David Brillinger, Department of Statistics, University of California, Berkeley, Gene Glass, chairman, Division of Foundations and Research Methodology, School of Education, University of Colorado; and Lincoln Moses, dean, Graduate School Stanford University.

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Address Correction Requested

EXECUTIVE SUMMARY OF
1976-77
MASSACHUSETTS STATEWIDE EDUCATIONAL ASSESSMENT

SCIENCE AND ECOLOGY

CONSUMER SKILLS AND VALUES

SCHOOL CLIMATE

Bureau of Research and Assessment
Massachusetts Department of Education
31 St. James Avenue
Boston, Massachusetts 02116

SCIENCE/ECOLOGY

The Assessment

Approximately eighteen hundred Massachusetts 9 year olds and an identical number of 17 year olds were assessed on their knowledge, understanding and appreciation in biology, chemistry, earth science, ecology and physics. [redacted] (NAEP), the "Science Education in Nineteen Countries" study, and those contributed by the study's Science Advisory Committee.

The Schools

Of the elementary and secondary schools participating in the study, 74% have a science supervisor or coordinator. Although the average fourth grade teacher spends a little over 2 hours a week in science instruction, 66% of the elementary school third and fourth grades, in the study sample, do not have a specific time allotted for ecology. Most elementary principals (67%) believe the time allotted to science is satisfactory. Although half of the high schools do not offer a separate ecology course, 80% do have specifically developed ecology lessons in their science courses.

Overall Science Results

Massachusetts 9 year olds score much better than their national and international peers and about equal to their regional (Northeast) counterparts. In no area (biology, chemistry, earth science, physics) did the 9 year olds score less than the NAEP national and regional samples.

[redacted] On test items that were comparable, the median percent correct for the International sample was 55, while the median performance of Massachusetts 17 year olds was 36. [redacted]

Nine year olds had their best percentage of correct items in earth science, ecology and chemistry and were poorest in biology. Seventeen year olds performed best in biology, earth science and ecology and poorest chemistry and physics. Nine year olds had a higher percentage of correct items in all areas compared to 17 year olds.

Background Characteristics and Science Results

Nine and seventeen year olds from big cities and industrial suburbs do less well than their peers in residential and other communities with the exception of 17 year olds on the earth science items. These industrial suburban and other community students performed better than their residential and big city counterparts.

Statistically there are significant differences between male students and female in most areas, although in a few content areas (i.e. 9 year old physics), there are no sex differences. The greatest sex difference for 9 year olds is in earth science; for 17 year olds, chemistry.

No relationship exists between family occupational status and median test performance for 9 year olds on biology or ecology exercises or for 17 year olds on earth science. Nine year olds from families of high occupational status, however, outperform those from low occupational backgrounds in earth science, physics and chemistry and for 17 year olds in biology, chemistry and physics.

Previous Experience, Attitudes and Science Results

Seeing a science demonstration outside of school is strongly related to 17 year old performance in all science content areas, but actually performing a science experiment outside of school (i.e. collecting and identifying rocks) is only strongly related to biology. For 9 year olds, the relationships with seeing a science demonstration is strongest in earth science, chemistry and physics. Only a weak relationship exists between doing a science experiment and 9 year old performance in all science content areas.

Discussions with parents and friends on scientific and environmental topics is related to science performance, especially for 17 year olds. Similarly, with a few exceptions, having some science laboratory experience is positively related to successful performance for both 9 and 17 year olds. The most clear cut relationship is for 17 year olds in chemistry.

Liking school is positively associated with successful science performance in all content areas for 17 year olds. It is strongest in ecology and weakest in earth science. The relationship is less clear for 9 year olds.

Appreciation in Science

The test items in this area of the assessment measured the degree to which students value the objects, ideas and processes of science. Nine year olds have appreciation scores at about the same level as both the NAEP and Northeast samples. Seventeen year olds have scores somewhat lower than these two sample groups. Although a somewhat greater percentage of Massachusetts 17 year olds want to become scientists than do their national and regional counterparts, they also see somewhat lesser usefulness for, and have less enjoyment of, science than do their national and regional peers.

Male students from residential suburbs and higher occupational background have the highest appreciation scores. Similarly, those seeing science demonstrations or performing outside science projects and those who discuss science with their parents or friends show higher appreciation of science.

Science Vocabulary

Test items were drawn from the most commonly used science terminology on the major Saturday morning television programs. Twenty six percent of 9 year olds think vitamins "are things that can be used instead of eating any food". Sixty eight percent believe computers can think for themselves like people.

Ecology: Student Involvement and Attitudes

Thirty seven percent of 9 year olds and 52% of 17 year olds are in schools with environmental projects. However, 26% of 9 year olds and 34% of 17 year olds are not involved in any environmental projects and 20% of 17 year olds say they don't have the time to get involved. Most 9 and 17 year olds attribute their involvement in special environmental projects to either their own initiative, schoolwork or friends. Few get their ideas from either family or the media.

One out of every four 9 and 17 year olds believe that the environmental problems facing us are very dangerous. Most believe they are "somewhat dangerous". Asked what sacrifices they would be willing to make to help conserve the earth's supplies of food, energy and materials, the largest percentage of nine and seventeen year olds indicated a willingness to help in the recycling of bottles, cans and paper. This was followed for 9 year olds, by "drive less in cars" and "making fewer visits to friends who live far away"; for 17 year olds "using less air-conditioning" and"living in a smaller house". Both age groups were least willing to "have fewer clothes" and "eat one meal less each day".

Seventeen year olds consistently reported a greater willingness to alter their lifestyles to help conserve the earth's resources than did 9 year olds. However, only one out of three 17 year olds, compared to over half of the 9 year olds, is willing to come back to school on their own time to learn and do more about environmental problems. Similarly, while only 32% of 17 year olds believe nuclear reactors can provide safe electrical power, 57% would sanction it if threatened with long period without electricity.

Ecology Achievement

Massachusetts 9 year olds completed 52% of the ecology test exercises correctly; 17 year olds 48%. The most difficult item for 9 year olds was recognizing a food chain; for 17 year olds the identification of a primary consumer in a food chain. The easiest exercise for 9 year olds was recognizing that plants provide food for living organisms; for 17 year olds recognizing that a major difference between man and other living things is that he changes his environment.

There were no sex differences in median performance for either 9 or 17 year olds. No relationship exists between median test performance and family occupational status for 9 year olds; for 17 year olds high status background students outperform low status background students.

The relationship between liking school and performance is strong for 17 year olds but non-existent for 9 year olds. While students in both age groups who report conversations about the environment with parents and/or friends have a higher median performance than those who do not report such conversations, the strength of this relationship is greatest for 17 year olds. The fact that a school had a project to help the environment or that a student participated in such a project is unrelated to achievement on the ecology exercises by 9 year olds. It is moderately related for 17 year olds.

For 17 year olds, the more dangerous environmental problems are perceived to be the higher the median performance on the ecology exercises. For 9 year olds, those who rate environmental problems as only "somewhat dangerous" perform better than those who feel that these problems are either very dangerous or not dangerous at all.

CONSUMER SKILLS AND VALUES

The Assessment

Approximately 1,800 Massachusetts 9 year olds and 1,600 17 year olds were assessed on their consumer knowledge, understanding and values in planning, borrowing, buying, investing, sharing and protecting. The one hundred criterion referenced test items for each age group were derived from both consumer education projects throughout the United States and from the Department of Education's Demonstration Project in Consumer Education in Newburyport.

In addition to the paper-and-pencil tests developed for 9 and 17 year olds, questionnaires were designed and administered to both groups and structured interviews conducted with parents on various facets of their knowledge, interests and problems related to consumer issues.

About three out of four elementary schools participating in the study do not have specific time allotted at the third or fourth grade level for studying the problems and concerns of consumers. Fifty seven percent of high schools, however, offer a separate course in consumer education and 62% have specific consumer education lessons as part of other courses

Overall Results

The two content areas in which median 9 year olds performance was highest were planning (71%) and protecting (67%). The area of planning includes budgeting time and resources, decision-making, establishing priorities, family life cycle, government agencies, use of leisure time and wills. Protecting includes conservation, environment, government programs, protection agencies, health, insurance, safety measures, social security and wills.

The lowest area of performance for 9 year olds was borrowing (10%). This area includes banking systems, bankruptcy, credit, credit charges, credit risks, interest, lending institutions and types of borrowing. The median level of correct items for the remaining content areas for 9 year olds was buying (43%), sharing (33%) and investing (33%). Buying includes advertising, consumer buying practices, influences on rising costs, labeling, medium of exchange, needs or desires, products, buyer and seller responsibilities and rights and types of business establishments. Sharing includes possessions, responsibilities, rights and taxes. Investing includes bonds, education, health, money, real estate, stocks, talent and time.

Seventeen year olds performed best in planning (76%) and protecting (73%) and least well in borrowing (58%). The median level of correct responses for the remaining content areas for 17 year olds was buying (71%), sharing (70%) and investing (68%).

Background Characteristics and Results

In almost all instances, 9 and 17 year olds from residential suburbs perform at a higher level than those from industrial suburbs, big cities or other kinds of communities. Big cities and industrial suburbs 9 and 17 year olds perform very similarly.

Nine year old females score higher than males on protecting, while males score higher on borrowing and investing. Seventeen year old females score higher in protecting while males score higher on borrowing, planning and sharing. For both, borrowing is the lowest performance area while protecting (except for 9 year old males) is the highest area of performance.

Relationships between occupational status and median test performance favor high occupational status 9 year olds in sharing, investing and buying with only small differences in the remaining areas. Similarly, high occupational status 17 year olds outperform low occupational status 17 year olds in buying, investing, protecting and sharing. Differences in other areas are not statistically significant.

Attitudes and Other Factors Related to Results

For both 9 and 17 yaar olds, those who "dislike school very much" score lower in all content areas than those who like school. For both age groups the differences are especially significant in borrowing and protecting. For 9 year olds the differences are, in addition, significant in buying and planning; for 17 year olds in sharing.

Most 9 year olds who often watch Saturday morning television do not do as well in the various content areas as those who report not watching Saturday morning television often. This is especially evident in borrowing, buying and sharing. The one area, where those who frequently watch television outperform those who don't, is in planning.

There is little difference in performance in the various consumer test areas between 9 year olds who report having classes on buying, saving and planning and those who don't. In fact, in buying and sharing exercises those who report not having classes perform slightly higher than those reporting affirmatively. For 17 year olds there are no significant differences in four of the six content areas; the exceptions favoring investing and planning for those who reported taking high school classes in consumer education.

For 9 year olds there are virtually no differences between those who often talk about saving with their family and those who don't. Similarly, there are no significant differences, with the exception of protection, between those who often talk about sharing with their friends and those who don't. The story is identical for 17 year olds. There are no differences between those discussing consumer problems with their family and those not; no differences between those answering yes and no when asked if they discuss consumer problems with friends.

There are no differences in the performance of 9 year olds who report hearing their teachers talk about sharing and those who do not.

Some exposure to media appears better for 17 year olds. Generally, those who watch little or no television news do not perform as well as 17 year olds who watch it more frequently. Similarly, those who read most of the newspaper almost every day do somewhat better than those who report never reading the newspaper. Those who read a national magazine at least once a week score higher than those who never read a magazine.

Seventeen year olds were asked which section of the newspaper they found the the most interesting. While those who find the news part of a newspaper most interesting, tend, overall, to do better, the most significant finding showed that those who perfer reading advertisements as against the comics, sports or news scored significantly lower in all six content areas.

Consumer Values

Values items were built into five of the six content areas of the test. In buying, 9 year olds indicated they both enjoy more and want more of what they see on television than 17 year olds. In the investing area, 17 year olds are more conscious of the value of saving money and the future worth of collected articles than 9 year olds. In planning, 9 year olds are more willing than 17 year olds to save over an extended period of time for a bike. In protecting, 17 year olds were more sensitive to the different ways parents protect their children than 9 year olds. In sharing, 17 year olds have a greater tendency to pay others in proportion to the work put in than 9 year olds.

Consumer Situations: 9 year olds

Nine year olds were orally presented with problematic consumer situations in planning and borrowing. Students indicated their opinions, knowledge and values on a structured questionnaire. Generally, nine year olds performed better on planning than on borrowing and females had a higher percentage of correct responses than males.

Consumer Negotiation: 17 year olds

Seventeen year olds listened to a consumer negotiation script dramatizing a dialogue between an automobile salesman and customer. Each student completed a questionnaire on details of the purchase; questions that were and could have been asked; how a purchase like this would influence family, individual and society; how they would conduct themselves in the situation; and general questions about community consumer problems.

Ninety three percent of 17 year olds recognized both manipulation in the dialogue between the salesperson and buyer and that insufficient details had been supplied in order to make a purchase. Few, however, could evaluate the impact of the purchase on the individual, family or society or cite additional questions that could be raised in the interaction. Few 17 year olds had information about agencies that could protect them in consumer negotiations. Analysis of responses indicate different perceptions of the negotiations and different attitudes, interests, and knowledge about consumer issues are held by males and females and by students from different occupational backgrounds.

Parents Consumer View

Parents from four different kinds of communities were interviewed on their consumer problems, concerns and interests. In buying, their major concern was with the undue influence of advertising on their children. Their second major concern was with the impact of rising costs on their life style. In borrowing, the greatest parental concerns was with credit, credit charges, credit risks and interest.

Major parental concerns in protecting centered on health and protection agencies while in the area of investing major concerns were expressed on the education of children, inflation, maintenance of real estate values and home repairs, and keeping up with health costs. Concerns with sharing focused on taxation while in planning, the concern was primarily around time and resources.

SCHOOL CLIMATE

The Assessment

Approximately eighteen hundred high school students in twenty four randomly selected high schools were administered school climate questionnaires. Teachers, administrators and support staff in eight of the twenty four schools were also administered climate questionnaires which, in part, paralleled the student questionnaire. School climate was defined as feelings and opinions about various aspects of the school and its operation as perceived by students, teachers, administrators and support staff. The basic domains of school climate considered by the study were relationships, personal development and organization. Under relationships are five specific climate areas of community, accessibility and receptivity, involvement, equal treatment and grouping. Under personal development are learning orientation, expressiveness, goal direction and challenge. Under organization are dealing with problems, order, options and influence distribution.

School Climate Instrument Validation

The climate questionnaires are based on organizational climate research in schools, classrooms, businesses, hospitals, the military and other types of organizations. The report describes other approaches taken to school climate, the approach taken by the study and the procedures followed in developing and testing the instrument. Results show the school climate instrument developed in the study to have high construct, discriminant and concurrent validity. In addition, the instrument demonstrated high reliability.

Major Findings

Major findings show:

- No one type of community---be it residential suburb, industrial suburb, large city or other type of community has high schools with the "best rated" school climate. Thus, some city schools are rated higher in school climate than some suburban and rural schools and vice versa.

- Administrators, teachers and support staff almost consistently rate school climate higher than students with administrators perceiving the climate highest, followed by support staff and then teachers. The differences are large, significant and systematic.

- Students from higher socioeconomic background, who are college-bound, who get higher grades and who are involved in extra curricular activities rate their high schools higher (than other groups) on nine of the thirteen climate areas assessed.
- Many areas of school climate are rated more favorably in high schools with smaller student enrollments, higher percentages of graduates going on to higher education, higher per-student district expenditures and with certain types of organizational and scheduling patterns.

Conclusions and Recommendations

Based on the school climate instrument's validity and reliability and the findings of the field testing, the report recommends that the instrument be made available for use by high schools. Related to this, the report suggests that technical assistance be provided those using the instrument. Further research with improved sampling and some revised questionnaire items is recommended along with further exploration of the relationships between school climate and certain school and student characteristics. Adaptation and field testing of the instrument for use by elementary and junior high schools is also recommended.

Postscript

A companion volume to this study will be issued in September, 1977. This publication will explain how local school districts can use the school climate instruments. Included will be such topics as forming local climate study teams, questionnaire administration and scoring, and interpreting results. Based on an intensive follow-up in three different high schools, the publication will focus on factors which can contribute or hinder the local use of school climate results.

ASSESSMENT FACT SHEET

WASHINGTON STATE FOURTH, EIGHTH AND ELEVENTH GRADE ASSESSMENT PROGRAMS

Chapter 98, Laws of 1975-76, 2nd ex. sess. directs the Superintendent of Public Instruction to conduct reading, mathematics and language arts achievement surveys of state *samples* of eighth and eleventh grade students in the public schools of Washington. Chapter 98 further directs the Superintendent to conduct a standardized test of the reading, language arts and mathematics achievement of *all* fourth grade students. The sample testing procedures for the eighth and eleventh grades will be quite different from the every pupil testing at grade four.

I. What About the Eighth and Eleventh Grade Testing Programs?

What are the purposes of the assessments? The primary purpose of these assessments is to provide state level information about the performance of Washington eighth and eleventh grade students compared to similar students' performance nationally in selected basic skills areas. Other purposes include developing prototype assessment models and materials for local districts to use in their own evaluation programs.

What will be assessed? Specifically, performance will be assessed on selected items in reading, mathematics and writing.

What tests will be used? [redacted] The content areas and actual test questions for the eighth grade assessment were selected by a representative group of Washington teachers and curriculum specialists. The tests do include a number of basic skill areas, but the number was limited to keep a reasonable testing time for each student. The development of the eleventh grade test will follow the same pattern as the eighth grade using teachers and curriculum specialists to identify the areas and items to be assessed.

How many schools and students will be involved? The eighth grade assessment will involve 67 schools randomly selected from all public schools enrolling eighth grade students. Approximately 25 randomly selected students within each of the 67 schools will be tested. The eleventh grade assessment will involve a similar number of schools and students.

When will the assessments occur? The eighth grade assessment will be administered during the week of November 15-19, 1976. The eleventh grade assessment will be administered in the spring of 1977.

How and when will the results be reported? The final reports of the eighth and eleventh grade assessments will not describe individual, school or district results. [redacted] In addition selected report variables such as size of district or type of community may be included. The eighth grade results will be available in February, 1977 and the eleventh grade results will be released in the summer or fall of 1977.

Further questions? Questions regarding the eighth and eleventh grade assessments may be directed to Dr. Gordon Ensign, Program Evaluation Section, Superintendent of Public Instruction, Olympia, Washington 98504. Telephone: (206) 753-3449.

II. What About the Fourth Grade Testing Program?

What are the purposes of the 4th grade test? The primary purpose of the 4th grade testing program is to provide the Legislature, school districts and parents with information about the achievement of 4th grade students compared with other students in the same district, the state, and the nation. Other purposes include the provision of data for federal or state categorical programs requiring annual evaluation reports.

What will be assessed? Basic skills achievement in reading, language arts and mathematics will be tested. In addition, districts or schools will have the option of testing reference skills.

What tests will be used? The Comprehensive Tests of Basic Skills (CTBS), a nationally standardized, norm-referenced achievement battery was selected on the basis of competitive bids and recommendations by an outside review panel.

How many schools and students will be involved? All public schools in Washington which enroll fourth grade students will be involved. Every fourth grade student will be tested in each school except for those students identified as educationally handicapped and served by special or self-contained educational programs.

When will the tests be administered? The CTBS will be administered during the period October 18-29. Included in the test materials to each district are suggested daily schedules for the administration of the sub-tests which make up the complete CTBS battery

How and when will the results be reported? Each building and district will receive individual student, building, and district level reports of the test results. These reports should be sent to the districts during the first week of December. The reports will compare student achievement with national, state and local results. The state level reports will include both district by district profiles and total state level results. A final state level report will be presented to the Legislature in February, 1977.

Further Questions? Questions regarding the fourth grade testing program may be directed to Dr. Gordon Ensign, Program Evaluation Section, Superintendent of Public Instruction, Olympia, Washington 98504. Telephone: (206) 753-3449.

SIX-YEAR IMPROVEMENT PLAN
FOR THE DEPARTMENT OF TESTING
JUNE 30, 1977

Based on the Norfolk Public Schools
Six-Year Improvement Plan

TESTING DEPARTMENT STAFF:

Donna Doyle Smith, Director of Testing
Keith W. Yackee, Supervisor of Testing
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Goal 2: Students will participate in learning experiences that promote optimal educational development of the individual. →

Performance Objective	Program	Current Status	Process Objective 1977-78	Process Objective 1978-79	Process Objective 1979-80	Process Objective 1980-83	Responsibility
2.1 Student achievement will equal or exceed the individual's ability level as measured by standardized tests (Will request th[illegible] 2.1 be changed to read, "Student achievement on [illegible] locally developed test using National Assessment items will equal or exceed the [illegible] percentage of correct responses on [illegible]			2.1.1.1 T-1 Provide tests, scoring services and interpretive information including reports to the staff, Board, and general public in grades 4, 6, 3, and 11				Director of Testing
			2.1.1.1 T-2 Provide achievement tests and scoring services for samples of students on a pre-post basis in grade 3 and posttest in grades 2 and 4 for the purpose of evaluating Title I programs. Modified Multiple Matrix Sampling Technique to be used	2.1.1.1 T-2 Tests and services will be provided. Technique may be changed	2.1.1.1 T-2	2.1.1.1 T-2 →	Director of Testing; Measurement Specialist; Secretary to the Director; Testing Aides
		Provide technical information to individual schools who are completing self-study	2.1.1.3 T Provide technical assistance in completing self-study	2.1.1.3 T	2.1.1.3 T	2.1.1.3 T →	Director of Testing; Secretary to the Director
			2.1.1.12 T-1 Provide consultant services in the development of objective-referenced tests in Business Education - Typing	2.1.1.12 T-1 Provide testing services for objective-referenced tests in typing and continue to provide consultant services for development in other areas	2.1.1.12 T-1 Expand services	2.1.1.12 T-1	Measurement Specialist; Secretary to Specialist; Word Processor Operator; Offset Operator; Testing Aides

Rhode Island Statewide Assessment Program 1975–76

[illegible]

[illegible]

CHAPTER 1

DATA GATHERING INSTRUMENTS

Test Development

Introduction. The first major activity of the criterion-referenced assessment of 17-year-olds was the development of an appropriate instrument with which to measure student achievement of basic skills. This goal was achieved, first, by the selection of subject area domains of interest to Rhode Island educators; second, by the identification of high-priority learning objectives within each domain; and third, by the selection of test exercises appropriately matched to each objective.

The selection process initially focused on the testing materials developed by National Assessment of Educational Progress (NAEP). These materials were then supplemented by others, including those developed by the Adult Performance Level Study (APL) of the University of Texas at Austin and by National Evaluation Systems (NES).

A general guideline steered the selection process. Within each subject area domain, objectives and test exercises were selected which represented basic skills at a minimal competency level. Each exercise reflected a skill which state educators believed (1) was required for success in adult life and (2) should be characteristic of the ability level of most Rhode Island students.

Subject area domains. A committee of RIDE staff members identified eight domains to be assessed, thereby establishing a framework for the selection process. Certain domains were traditional subject areas characteristic of school curricula, while others represented more general learni outcomes desirable for students about to exit from high school. The eight selected domains are listed below:

1) Reading
2) Mathematics
3) Writing
4) Science
5) Citizenship
6) Career and Occupational Development
7) Health
8) Consumer Economics

Preliminary objective selection. In order to facilitate objective selection, NES staff members assembled a customized package representing all objectives developed by NAEP and APL. All major objectives and subobjectives for each domain were included, as well as specifications for appropriate types of exercises. These materials were prepared for review by a selection committee chosen by RIDE.

The selection committee was comprised of approximately 25 Rhode Island representatives of such groups as school administrators, teachers, parents, school committees, personnel officers, admissions officers, and other interested professional and lay groups. The members performed pre-conference objective selection ratings prior to attendance at two conferences, one for final objective selection and one for test exercise selection.

The complete set of objectives was mailed on October 22, 1975, to all participants, along with customized rating sheets. Each member judged each objective and sub-objective in terms of whether or not it was acceptable based on established criteria for objective review. A three-point scale was utilized with 1 = definitely not, 2 = not sure, and 3 = definitely yes.

These materials were returned one week later and NES staff tabulated the data to produce group averages of the ratings. The total objective pool was then reduced by selecting only those objectives with a mean rating of 1.5 or higher. A new set of objective materials was prepared for presentation at the Objective Selection Conference.

Objective Selection Conference. The selection committee assembled for the first time on November 5, 1975, at an Objective Selection Conference. Following a description of the aims and philosophy of assessment programs and a detailed discussion of the parameters of the test development phase, the group divided into sub-committees, each assigned one or more goal areas. The members of each committee discussed the objectives which were presented. Individual members then judged each objective in terms of its relative priority for statewide assessment. A five-point scale was employed with 1 = highest priority and 5 = lowest priority.

Following the Objective Selection Conference, NES staff members analyzed the results of the ratings. All objectives with an average rating of 2 or higher were adopted for further attention of the committee.

Item Selection Conference. The refined pool of objectives was assembled by NES staff in a second set of conference materials. All available NAEP and APL test exercises were reproduced and matched to their respective objectives. Where few NAEP or APL exercises were available, these were supplemented by exercises from the NES item bank. Item rating sheets were prepared to accompany the conference materials.

The selection committee reassembled two weeks later at an Item Selection Conference. Again dividing into sub-committees, the members discussed each of the exercises individually and reached group consensus on its appropriateness for the assessment. Appropriateness was determined on the basis of an item's difficulty level in terms of the target population and the assessment philosophy and the degree to which the item represented a valid measure of the objective to which it was referenced. The committee rated each item as acceptable or not acceptable for statewide assessment. These ratings were valuable input to the decisions required of RIDE in arriving at a final exercise pool.

Final selection. Based on concerns regarding the breadth of content of tests and the availability of testing time in the schools, RIDE staff made the final selection of test exercises. Only exercises which had been judged acceptable by the committee were adopted by RIDE. These exercises were subjected to a final review by an ad hoc committee of specialist teachers, one committee for each subject area domain, prior to final approval.

When the selection process was completed, 113 exercises measuring

45 objectives were selected for the assessment. Approximately [illegible] of these were exercises developed by NAEP; 85% of all exercises were multiple choice format and 15% were open-ended, requiring either a numerical response or a short verbal answer. One exercise required a full writing sample. The text of all exercises (in test booklet form) appears in Appendix A.

Test Booklets

In order to reduce the testing time required of each student, the selected exercises were assembled into two test booklets. Only one of the booklets was administered to each student in the assessment. Each booklet required approximately one hour of testing time.

The booklets are defined by the subject area domains they contain; that is, all exercises for a given domain are contained in one booklet. Table 1.1 displays the assignment of domains to test booklets.

TABLE 1.1

Assignment of Subject Area Domains
to the Two Test Booklets

Booklet 1	Booklet 2
Career and Occupational Development	Mathematics
Consumer Economics	Health
Citizenship	Reading
Writing	Science

The test exercises were printed, preceded by the student questionnaire, on 11" x 17" white stock, folded and saddle-stitched. Responses were entered directly in the test booklet, either in multiple-choice bubbles or on designated answer lines. Scoring boxes for open-ended items were printed at the bottom of appropriate pages. The format used in the production of the test booklets provided for ease of student response and data processing.

CHAPTER 8

NATIONAL COMPARISONS

Introduction

One of the purposes of the assessment was to permit comparisons of the performance of Rhode Island students with performance nationwide. Therefore some of the test items selected for inclusion in the criterion-referenced tests were those developed by National Assessment of Educational Progress (NAEP). For those items which NAEP administered to 17-year-olds, comparisons may be made between Rhode Island students and students from across the nation. This chapter presents the data from both the national and the Rhode Island assessments on selected test items, and examines the similarities and differences between them.

Only four goal areas contained items for which comparative data are available. These areas were Reading (18 items), Mathematics (eight items), Citizenship (seven items), and Consumer Economics (one item). The analysis groups items according to objective within each goal area, and presents the percentage of 17-year-olds in Rhode Island and nationally who scored correctly on each test item.

Reading

Summarized in Table 8.1 are the percentages of 17-year-olds, nationally and in Rhode Island, who scored correctly on the individual Reading items,

TABLE 8.1

Percentage of 17-Year-Olds Scoring Correctly on Individual Reading Items, Both Nationally and in Rhode Island

Objective	Item #	NAEP/National		Rhode Island	
		%	S.E.	%	S.E.
(3) Read paragraphs, passages and longer works	30	92.7	.6	96.5	.4
	31	94.1	.6	94.1	.5
	32	84.9	1.0	92.7	.6
	33	68.3	1.4	85.3	.7
	34	77.7	1.3	78.0	.8
	35	82.5	1.0	89.6	.6
	36	94.7	.6	96.5	.4
	50	92.0	.7	92.0	.6
	54	85.5	1.0	82.7	.8
	55	90.8	.7	90.1	.7
(4) Remember significant parts of what is read	57	93.2	.6	92.8	.5
	58	89.3	.7	87.5	.7
(6) Obtain information efficiently	49	98.4	.3	97.3	.4
	42	80.4	1.1	81.9	1.2
	43	94.5	.6	96.0	.4
(7) Draw appropriate inferences	56	91.4	.8	86.7	.8
(9) Make judgments about a work on the basis of what is found in the work	48	92.1	.9	84.3	.7
	53	83.3	1.0	84.4	.8

grouped by objective, as well as the standard errors (S.E.) of the percentage scores. Overall, Rhode Island students performed slightly better on Reading items than students nationally. More specifically, on almost two-thirds of the items concerned with reading paragraphs, passages, and longer works (Objective 3), a higher proportion of Rhode Island students (up to 12% more) responded correctly than 17-year-olds nationally. On the other items assessing this objective, the percentage of students scoring correctly was about the same for the nation as it was for Rhode Island.

Two items assessed the recall of significant parts of what is read (Objective 4). On these items, a slightly lower percentage of the Rhode Island students answered correctly than students nationally.

Obtaining information efficiently (Objective 6) represented another area in which Rhode Island students performed slightly above students from across the nation. On two of the three items assessing this objective, a higher proportion of Rhode Island students answered correctly.

On the item measuring the drawing of appropriate inferences (Objective 7), 4.7% more students nationally answered it correctly than students in Rhode Island.

Finally, of the two items assessing making judgments about a work on the basis of what is found in the work (Objective 9), national percentages were higher on one and Rhode Island percentages were higher on the other.

Mathematics

Table 8.2 displays the percentage of all 17-year-olds, in the nation and in Rhode Island, who scored correctly on each of the eight Mathematics items. Also presented are the standard errors of the percentage scores.

A slightly higher percentage of Rhode Island students correctly answered items testing knowledge of the metric system (Objective 2) than students nationwide. Rhode Island students performed comparably with students nationally on arithmetic computation (Objective 3). On four of the six items for this objective, there were no appreciable differences. On the remaining two items, there are moderate differences; on one, 9% more Rhode Island students answered the item correctly, and on the other, 6% more students nationally correctly answered the item.

Citizenship

Presented in Table 8.3 are the national and Rhode Island results on items assessing three objectives in the goal area of Citizenship. Performance of Rhode Island 17-year-olds was substantially below that of 17-year-olds nationally on the item assessing understanding of the organization of federal and state government (Objective 3). Fifty-nine percent of Rhode Island students, as opposed to 73% of students nationally, answered this item correctly.

There were small differences (less than 5%) between Rhode Island students and students nationally on the item assessing recognition of the importance of political opposition and interest groups (Objective 5), and

TABLE 8.2

Percentage of 17-Year-Olds Scoring Correctly on Individual Mathematics Items, Both Nationally and in Rhode Island

Objective	Item #	NAEP/National		Rhode Island	
		%	S.E.	%	S.E.
(2) Knowledge of metric system	10	65.3	1.5	71.1	.9
	11	67.8	1.8	71.1	1.0
(3) Performance of arithmetic computation	1	42.6	1.6	44.4	1.1
	5	93.8	.7	93.5	.6
	4	68.6	1.6	66.8	1.0
	8	79.1	---	70.3	1.1
	9	77.4	1.5	78.2	.9
	14	36.9	1.8	31.1	.9

TABLE 8.3

Percentage of 17-Year-Olds Scoring Correctly on Individual Citizenship Items, Both Nationally and in Rhode Island

Objective	Item #	NAEP/National		Rhode Island	
		%	S.E.	%	S.E.
(3) Understand organization of federal and state government	57	72.7	1.4	59.2	1.2
(5) Recognize importance of political opposition and interest groups	56	93.8	.6	90.3	.6
(7) Know how to register to vote and know voting procedures	61	75.0	1.4	77.2	.9
	62	84.3	.9	78.1	.9
	63	75.9	1.3	76.1	1.0
	64	64.1	1.6	64.3	1.0
	65	91.1	.8	86.8	.7

on four of the five items assessing knowing how to register to vote and knowing voting procedures (Objective 7). Students nationally outperformed Rhode Island students on Objective 5; however, the results were mixed for Objective 7, with Rhode Island students performing slightly higher on three of the five items.

Consumer Economics

On the one Consumer Economics item measuring the objective "shop with preparedness and economy," students nationally performed slightly better than Rhode Island students. Table 8.4 shows that the difference between the groups was small (4.3%).

TABLE 8.4

Percentage of 17-Year-Olds Scoring Correctly on the Consumer Economics Item, Both Nationally and in Rhode Island

Objective	Item #	NAEP/National		Rhode Island	
		%	S.E.	%	S.E.
(1) Shop with preparedness and economy	19	35.2	1.3	30.9	1.0

Highlights of Results

To provide an overview of the performance of Rhode Island students and students nationally, the average percentage of students scoring correctly was computed for the items within each objective for both student groups. These data are presented in Tables 8.5 and 8.6 for Reading, Mathematics, and Citizenship. Since Consumer Economics contained only one item for one objective, data are not presented graphically for this goal area.

It is clear, from the graph in Table 8.5, that Rhode Island students performed above the national level on Reading Objectives 3 and 6 (reading paragraphs, passages and longer works; and obtaining information efficiently). They scored lower than students nationally on the remaining three objectives.

In Mathematics, shown in Table 8.6, Rhode Island students performed above the national level on Objective 2 (knowledge of the metric system) and quite close to the national level on Objective 3 (performing arithmetic computation).

In Citizenship, also shown in Table 8.6, Rhode Island scored below the nation on all three objectives. The largest difference was observed for Objective 3 (understanding the organization of federal and state government). On the other two objectives, only small differences occurred between the two student groups.

In general, Rhode Island students as compared with students nationally performed well in the traditional Reading areas, in all Mathematics areas, and in Consumer Economics. Their performance was somewhat lower in the area of Citizenship.

TABLE 8.5

Graph Comparing Rhode Island Students and Students Nationally on Reading Items by Objective

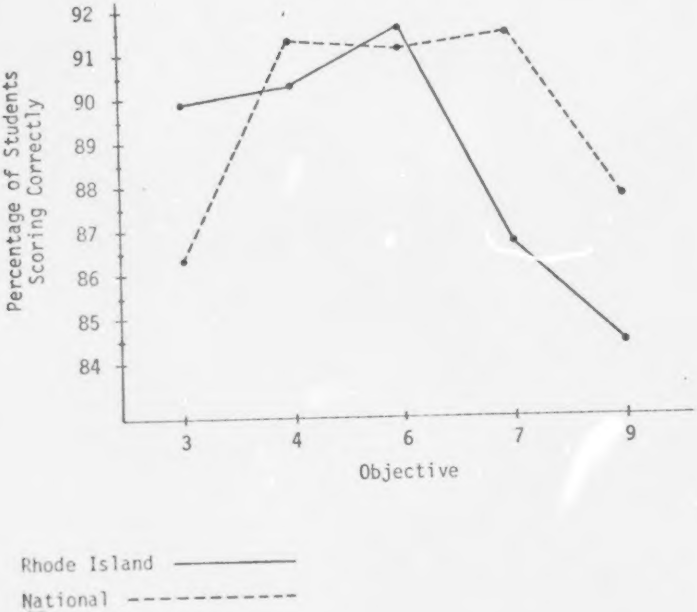
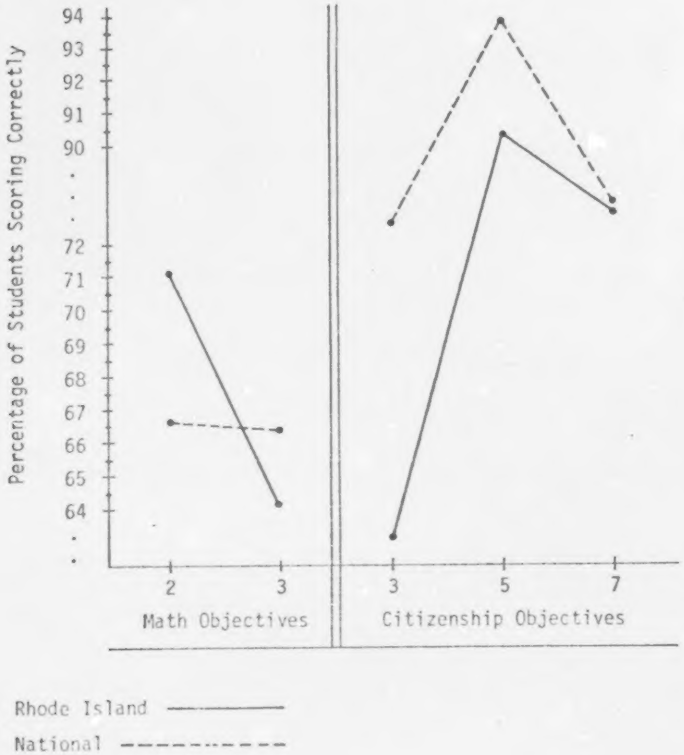


TABLE 8.6

Graph Comparing Rhode Island Students and Students Nationally on Mathematics and Citizenship Items by Objective



WASHINGTON
STATEWIDE EDUCATIONAL ASSESSMENT

READING, MATHEMATICS, WRITING
8th Grade - Fall 1976

STATE GENERAL REPORT

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by

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This report is made in compliance with Chapter 98, Laws of the 2nd ex. session 1975-76 Washington State Legislature.

April, 1977

WASHINGTON STATEWIDE EDUCATIONAL ASSESSMENT
State General Report
EIGHTH GRADE

INTRODUCTION

In 1976 the Washington Legislature directed the Superintendent of Public Instruction to administer a reading, mathematics and language arts achievement level survey to a sample of 8th grade students. The sample was to be carefully selected so that the survey results could be generalized to the more than 65,000 8th grade students in Washington's public schools. The Legislature's stated purpose for this survey was to allow the public and the Legislature to judge how Washington 8th graders' achievement in selected areas compares with 8th grade achievement nationally or regionally. The remainder of this report describes both the Superintendent's procedures for and the general results of the first 8th grade assessment.

OVERVIEW OF ASSESSMENT PROCEDURES

In September, 1976, the Superintendent called together groups of teachers, curriculum specialists, administrators, and higher education personnel in each of the three areas of reading, mathematics, and language arts. Each of these groups was charged with the responsibility of reviewing the available National Assessment of Educational Progress (NAEP) items in each of these three basic skill areas and recommending those items to be included in the 8th grade assessment.

Several criteria were used in this review and selection process. First, the selected items were to be related as much as possible to current curricular trends and emphases in Washington. Second, the items were to measure significant or worthwhile skills, knowledges, or understandings. Third, the items were to relate both to "out-of-school" and "in-school" applications or requirements.

The NAEP item pool was used as a basis for the Committees' selections because it contains items which generally meet the above criteria. Further NAEP items have been validated in national surveys and offered the opportunity to compare Washington's 8th grade performance with that of a national and western region sample -- a requirement of the legislation.

After each of the Committees had selected an appropriate set of items, Westinghouse Learning Corporation (WLC) designed and printed appropriate administrative materials and test booklets. Following NAEP procedures, the Washington 8th grade assessment items were administered using "paced" audio cassette tapes which included all instructions to the students and moved the students through each booklet at a uniform pace. WLC was also responsible for providing the "paced" tapes based on NAEP specifications.

The reading, mathematics and writing (language) booklets were administered to a sample of 8th grade students in November of 1976. The completed booklets were returned to WLC for scoring and results analysis. WLC has been a major contractor in the scoring and analysis of NAEP surveys which was a particular advantage in the scoring and analysis of the "open-ended", "free-response" and writing items which required extensive hand scoring.

The 1976 Washington 8th grade assessment was based on a probability sample of approximately 1,600 students. The performance of the students in the sample was then generalized to represent the average performance of all eighth grade students in Washington's public schools. Comparisons were also made between Washington students and students nationwide and in the western region.

The probability sample was selected in two stages. First, a stratified sample of 67 schools was selected from a list of all Washington public schools which enroll eighth grade students. Then from each of these 67 schools, a random subsample of students was selected to take the test. Further details on the sampling design, including weighting and analysis formulas, are available in a separate report.

Responses to multiple-choice items were scored by optical scanning equipment. Responses to open-ended questions were hand-scored using the scoring categories developed by NAEP. The results were then weighted to produce estimates of the performance of all eighth graders. For each item, an estimate was computed of the proportion (percentage) of eighth graders who would choose each of the possible responses, if all Washington eighth graders had taken the test. In particular, estimates were computed of the proportion of students who would answer the item correctly. In this report, the proportion of students answering an item correctly is called the "p-value".

Besides estimates for all students, separate statewide estimates were also computed by type of community, sex, and age. In addition, an estimate of the precision of each estimated proportion was computed. Further details of the analysis procedures are included in the separate sampling and analysis design report.

READING RESULTS

The 45 items in the reading booklet tested a number of important reading skills and concepts. Many of the items relate directly to practical or "every day" situations. Such items include following a set of written directions or signs, reading report cards and insurance forms, interpreting road maps, understanding labels on grocery products and following recipes. Other kinds of items are designed to indicate the numbers of students who can correctly identify the major point of a paragraph, detect flaws in the logic of a set of statements, or appropriately sequence a series of pictorial events.

Generally, Washington 8th graders performed well on nearly all of the reading items. Item 27B concerning the interpretation of an automobile insurance form was the most troublesome followed by item 25 which required the students to answer questions about a recipe. All students (100%) correctly answered items 21A, 21B and 21D involving the interpretation of a map. On well over half of the items (28 of 45) 85% or more of Washington's eighth graders gave the correct responses, while only eight of the 45 items were answered correctly by less than 70%. The proportions of students answering each reading item correctly (p-values) are given in Table 1.

Table 1

Washington Eighth Grade Assessment

ITEM P-VALUES
READING

Item	Proportion of All Students Answering Items Correctly	Item	Proportion of All Students Answering Items Correctly
1	.98	17	.68
2	.95	18A	.98
3	.35	18B	.96
4	.87	18C	.88
5	.72	19	.96
6	.92	20	.66
7	.88	21A	1.00
8	.93	21B	1.00
9	.67	21C	.96
10	.88	21D	1.00
11	.71	22	.72
12A	.72	23	.63
12B	.79	24	.86
12C	.70	25	.29
13A	.94	26	.85
13B	.98	27A	.91
13C	.98	27B	.10
13D	.94	28	.82
13E	.82	29	.92
14A	.83	30	.88
14B	.68	31	.95
15	.89	32	.98
16	.87		

MATHEMATICS RESULTS

Similar to the reading items, many of the 57 math items relate directly to practical applications of math skills or knowledge. The math booklet included items such as determining the savings between two discounted prices, selecting the "best buy" among various sizes of a product, calculating gasoline mileage or measuring windows for curtains. Other items required the student to work with fractions and decimals, perform basic computations (addition, subtraction, multiplication, and division), determine areas or dimensions of shapes, calculate rates of speed, and to convert from one mathematical form to another (1/5 = what percent?).

As was true nationally, this particular set of mathematics items proved more difficult than the set of reading items. However, the Washington students generally performed well on the mathematics items with 70% or more of the students answering nearly one-half of the items correctly. Item 31, computing the area of a square given the perimeter proved most difficult followed by 49B, interpreting a graph and item 17, calculating a percentage of a number. Items 1, 2, 14A, 4C, 6A, 6B, and 6C proved least difficult with over 90% of the students answering each one correctly. These items concerned magnitude, place value, simple computation and properties of zero. Table 2 gives a complete listing of the proportion of students correctly answering each of the 57 math items.

WRITING RESULTS

The sample of students was given two quite different writing assignments in the language portion of the 8th grade assessment. One item required the students to listen to a piece of music (a Scott Joplin rag) and write whatever they wished -- how the music made them feel, or what it reminded them of, etc. The second item was much more structured in that the students were asked to write a letter to their school principal describing something they would like to see changed in the operation of the school. They were further instructed to offer and justify a solution or alternative and provide examples of how their proposed solution would improve the existing situation.

In each of these writing areas, Washington's 8th graders performed similarly to both the national and western region NAEP samples.

On the music essay, 60% of the Washington students simply wrote a list of two or more single statements. Only 22% of the essays consisted of two or more topics and had four or more details related to at least one topic. Another 7% of the essays consisted of a single topic with four or more related details.

The orientation of about 50% of the Washington music essays was "associational"; that is, the writer named situations or scenes the music brought to mind. About 20% of the essays were "egocentric", in that the writers concentrated on their own internal states. Another 20% of the essays were "analytical", in that they identified either the music or its performer, or discussed its technical characteristics (soft, jumpy, crescendos, etc.). About 7% of the students created a metaphor for the music by inventing a scene or telling a story.

Table 2

Washington Eighth Grade Assessment

ITEM P-VALUES
MATHEMATICS

Item	Proportion of All Students Answering Items Correctly	Item	Proportion of All Students Answering Items Correctly
1	.99	26	.40
2	.92	27	.71
3	.87	28	.80
4A	.96	29	.51
4B	.88	30	.80
4C	.93	31	.08
5	.88	32	.59
6A	.98	33	.46
6B	.98	34	.67
6C	.97	35	.55
7	.73	36	.19
8	.70	37	.34
9	.20	38	.81
10	.28	39	.69
11	.26	40	.89
12	.21	41A	.73
13	.70	41B	.38
14	.75	42	.35
15	.38	43	.47
16	.42	44	.51
17	.11	45	.53
18	.63	46	.87
19	.30	47	.41
20	.88	48	.77
21	.63	49A	.61
22	.69	49B	.09
23	.86	50	.55
24	.53	51	.81
25	.46		

About 25% of the principal's letters suggested a change, but neither justified it nor stated how it could be accomplished. About 45% of the letters suggested a change and either justified it or stated how it could be accomplished, but not both. Another 25% of the letters had all three elements, but developed them unevenly. About 5% of the letters contained all three elements and were evenly developed.

In addition to the two writing items, Washington students were given three different examples of a letter written for the same purpose and asked to identify the best letter. Eighty-eight percent were able to do so correctly. On another item, 52% of the students reported they sometimes write "things like poems, lyrics, or stories" for enjoyment, while 39% reported they never do and 8% often do. This compares with 51% who reported they often write "things like notes and letters, messages and directions", 44% reported they sometimes do, and 5% never do.

RESULTS BY TYPE OF COMMUNITY

In addition to the estimates for the entire state, separate estimates were computed for students in the following types of communities:

1. Urban Metropolitan -- the area including the school districts of Seattle, Spokane, and Tacoma;
2. Urban Nonmetropolitan -- school districts in cities of 15,000 or greater population and not included above;
3. Suburban -- districts contiguous to either urban metropolitan or urban nonmetropolitan districts;
4. Rural/Small Town -- districts in cities less than 15,000 population and/or school districts enrolling fewer than 2,000 students and not in any other type of community category.

The major trend which emerged from the data was that students in Urban Metropolitan schools correctly answered items somewhat less often than students in the other types of communities. This was not a strong trend, however, and not consistent for all items. For some items the differences in p-values between types of communities were too small to be statistically significant; that is, they were small enough to have occurred by chance. In other cases the differences in p-values were statistically significant, but were still not large in magnitude. A difference of .10 (10%) was defined as the minimum for which statistically significant differences were large enough to be deemed practically (educationally) significant. Table 3 lists those items for which the Urban Metropolitan p-values were both statistically significantly different (at the .05 level) and at least .10 less in magnitude, than the p-values for at least one of the other types of communities.

A detailed discussion of how statistical significance was calculated is included in the separate sampling and analysis design report.

It should also be pointed out that Urban Metropolitan students scored higher on a few items than students in other types of communities. For example, 17% more Urban Metropolitan students correctly answered Mathematics Item 8 and 12% more correctly answered Mathematics Item 45, than did Rural/Small Town students.

Except as noted above and in Table 3, there were no overall major differences in p-values among Urban Nonmetropolitan, Suburban, or Rural/Small Town students.

No significant differences occurred in either of the writing samples for any of the groups from the four types of communities.

Table 3

Items for which Urban Metropolitan p-values are both statistically significantly different (.05 level) from, and .10 (or more) in magnitude less than, p-values for another type of community.

Item		Ranges of difference in p-values between Urban Metropolitan students and students in other types of communities.
Reading	9	.10 - .15
	11	.11 - .15
	12C	.06 - .14
	14A	.10 - .15
	14B	.13 - .18
	17	.06 - .14
	25	.07 - .10
	26*	.07 - .15
Mathematics	14	.08 - .13
	15	.08 - .13
	17	.08 - .10
	29	.05 - .12
	37**	.08 - .14
	47	.05 - .16
	49A	.06 - .12
	51	.10 - .15

* Rural/Small Town results similar to Urban Metropolitan.

** Suburban results similar to Urban Metropolitan.

There is reason to believe that considerable variation exists among schools' p-values for some items. This variation in performance from school to school showed up as larger than usual confidence intervals (discussed in sampling and analysis report) and could have been caused by differing curriculum content or emphasis among the schools. Table 4 lists these items. This hypothesis needs additional data and further investigation before it can be verified.

Table 4

Items which may reflect important differences in curriculum content emphasis among schools in a given type of community.

Item		Type of Community
Reading	11	Urban Metropolitan, Urban Nonmetropolitan
	14B	Urban Metropolitan
	23	Urban Metropolitan
	24	Urban Metropolitan
	28	Urban Metropolitan
Mathematics	8	Urban Nonmetropolitan
	17	Urban Nonmetropolitan
	24	Urban Metropolitan
	35	Urban Metropolitan, Urban Nonmetropolitan, Suburban
	41B	Urban Metropolitan, Rural/Small Town

RESULTS BY SEX

In addition to the general state estimates, separate estimates were computed for males and females. Females tended to do better on the Reading items than the males, while on the Mathematics items, males tended to do better than females. For the most part, however, the differences were too small to be statistically significant, or to be of much practical importance when they were statistically significant. Table 5 lists those items in which statistically significant differences of .10 (or more) occur.

Males and females differed significantly on the structure of their music essays. About 65% of the males' essays consisted of two or more single statements compared with 56% of the females' essays. Conversely, 14% of the males' essays consisted of more than one topic and had four or more details on at least one topic compared with 31% of the females' essays with that same degree of complexity.

Males and females did not differ significantly in the "orientation" of their music essays.

On the letters to the principal, 31% of the females included all three requested elements compared with 20% of the males' letters. Two percent of the males and 4% of the females wrote fully developed letters.

Females indicated they write for amusement more often (69%) than do males (52%). About 70% of the females reported they often write notes and letters, messages or directions, while only 32% of the males reported doing so.

Table 5

Items for which male and female p-values are statistically significantly different and the differences are also of magnitude .10 or more.

Item		Higher Scoring Sex	Differences in p-values
Reading	3	Males	.20
	12C	Females	.14
	25	Females	.14
	26	Females	.10
Mathematics	11	Males	.15
	21	Males	.10
	29	Males	.10
	33	Males	.14
	35	Males	.11
	44	Males	.16

RESULTS BY AGE GROUP

Students were asked to record their birth dates on the cover of their test booklets. From this information each student was assigned to an age group for purposes of analysis. The age groups were defined in a manner consistent with NAEP: 13 year olds were defined as anyone born in the calendar year 1963, and the other age groups were defined analogously. The resulting sample sizes were large enough to permit making comparisons between Washington 13 and 14 year old eighth graders.

The 13 year olds performed somewhat better than did the 14 year olds on nearly every item in all three tests. On all but four items, however, the differences were too small to be statistically significant, or to be practically significant (.10 or more) when they were statistically significant. The four items for which statistically significant differences of .10 or greater occured were Reading Item 14B (.10), Reading Item 20 (.10), Mathematics Item 24 (.11), and Mathematics Item 49A (.12).

COMPARISON OF WASHINGTON RESULTS WITH NAEP RESULTS

The performance of Washington students on the items was compared to that of students tested nationally based on the data supplied by NAEP. Because the Washington target population consisted of all eighth graders and the NAEP population consisted of all 13 year olds, comparisons were limited to the common subgroup of both populations -- 13 year old eighth graders.

On most items, any differences between the two groups were small enough to be attributed to chance variation. Those items for which the differences were statistically significant and were also of magnitude .10 or greater are listed in Table 6. All differences except two favored the Washington students, the exceptions being Reading Item 3 (highway sign) and Math Item 15 (1/2 + 1/3). The differences were fairly consistent among males and females.

Table 6

Items on which Washington and NAEP p-value differences are statistically significant and are greater than .10.

Washington Males vs. NAEP Males		Washington Females vs. NAFP Females		Washington Total vs. NAEP Total		Washington Total vs. NAEP West	
Item	p-value Difference*	Item	p-value Difference*	Item	p-value Difference*	Item	p-value Difference*
Reading		Reading		Reading		Reading	
3	-.14	3	-.17	3	-.16	3	-.13
5	+.15	5	+.14	5	+.15	5	+.17
13E	+.10	14B	+.12	14B	+.12	11	+.10
14B	+.12			20	+.10	14A	+.13
						14B	+.15
Mathematics		Mathematics		Mathematics		Mathematics	
14	+.12	15	-.10	14	+.10	7	+.12
15	-.12	18	+.10	15	-.10	8	+.14
18	+.13	24	+.23	18	+.12	10	+.12
24	+.19	38	+.21	24	+.21	14	+.12
38	+.13	39	+.11	38	+.18	24	+.31
42	+.23	45	+.10	45	+.12	35	+.13
45	+.15	49A	+.19	49A	+.16	36	+.13
49A	+.10	50	+.13	50	+.14	45	+.13
50	+.15					47	+.15
						49A	+.21
						50	+.16
Writing Music Orient		Writing Music Orient		Writing Music Orient		Writing Music Orient	
R1	+.12	R1	+.11	R1	+.12	R1	+.13

*A minus sign indicates that a smaller proportion of Washington students correctly answered the item than did the NAEP students; conversely, a plus sign indicates that more Washington students than NAEP students correctly answered the item.

When Washington students were compared to NAEP results for students in the 15 western states (see Figure 1.) a few more significant differences appeared and they all favored Washington students. Tables 7, 8, and 9 list the comparison p-values for Washington 13 year old eighth graders, national 13 year old eighth graders and western region 13 year old eighth graders on all items.

FIGURE 1.

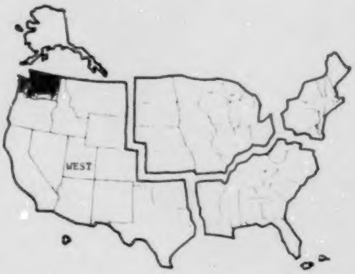

Table 7

Item p-values for 13 year old eighth graders (NAEP and Washington) -- Reading

Item	Washington	US (NAEP)	West (NAEP)
Reading 1	.98	.95**	.94**
2	.97	.95**	.95
3	.34	[illegible]**	.47**
4	.88	.89	.90
5	.74	.59**	.57**
6	.93	.92	.89
7	.91	[illegible]**	[illegible]**
8	.96	[illegible]	.93
9	.69	.61**	.60**
10	.90	.85**	.86
11	.74	.69	.64**
12A	.74	.81**	.80**
12B	.83	.83	.80
12C	.74	.72	.68
13A	.95	.89**	.89**
13B	.98	.97	.96
13C	.98	.98	.96
13D	.94	.88**	.36**
13E	.83	.74**	.74**
14A	.87	.79**	.74**
14B	.72	.60**	.57**
15	.90	.88	.87
Reading 16	.90	.84**	.84
17	.70	.66	.68
18A	.98	.97	.97
18B	.97	.97	.98
18C	.89	.90	.89
19	.97	.98	.97
20	.71	.61**	.62
21A	1.00	.97**	.98**
21B	1.00	.99	1.00
21C	.98	.97	.98
21D	1.00	.96**	.97**
22	.76	.77	.73
23	.65	.59**	.61
24	.89	.88	.87
25	.32	.25	.23**
26	.87	.88	.86
27A	.93	.87**	.87**
27B	.09	.07	.07
28	.84	.84	.84
29	.93	.91	.89
30	.89	.87	.85
31	.97	.92**	.91**
32	.98	.98	.98

**NAEP data marked by double asterisks are statistically significantly different from the corresponding Washington estimates at the level .05.

Table 8

Item p-values for 13 year old eighth graders (NAEP and Washington) -- Math

Item	Washington	US (NAEP)	West (NAEP)
Math 1	.99	.98	.94
2	.94	.94	.93
3	.89	.85**	.84
4A	.96	.96	.97
4B	.90	.85**	.81**
4C	.94	.92	.89**
5	.90	.87	.83
6A	.99	.99	1.00
6B	.98	.96**	.97
6C	.98	.96**	.97
7	.76	.69**	.64**
8	.72	.66	.58**
9	.21	.25	.30**
10	.28	.24	.18**
11	.28	.29	.32
12	.22	.23	.17
13	.72	.75	.71
14	.77	.67**	.65**
15	.42	.52**	.47
16	.46	.49	.42
17	.12	.12	.11
18	.65	.53**	.55
19	.31	.26**	.23**
20	.90	.87	.90
21	.66	.59**	.58
22	.72	.69	.67
23	.88	.88	.84
24	.58	.37**	.27**
25	.49	.51	.48
26	.43	.46	.45
27	.73	.69	.69
28	.83	.84	.84
Math 29	.54	.52	.56
30	.81	.75	.72**
31	.09	.08	.05**
32	.62	.66	.67
33	.47	.46	.45
34	.70	.74	.75
35	.57	.52	.44**
36	.23	.20	.10**
37	.37	.40	.34
38	.83	.65**	.70**
39	.73	.64**	.65
40	.90	.87	.85**
41A	.75	.73	.68
41B	.40	.43	.46
42	.38	.32	.29**
43	.51	.45**	.45
44	.54	.59	.46
45	.56	.44**	.43**
46	.89	.89	.88
47	.45	.46	.30**
48	.81	.85	.86
49A	.67	.51**	.46**
49B	.09	.08	.06
50	.58	.44**	.42**
51	.83	.80	.81

**NAEP data marked by double asterisks are statistically different from the corresponding Washington estimates at the level .05.

Table 9

Item p-values for 13 year old eighth graders (NAEP and Washington) -- Writing

Item		Washington	US (NAEP)	West (NAEP)
Writing				
(Music Struct)	R1	.02	.02	.01
	R2	.60	.60	.59
	R3	.06	.08	.07
	R4	.24	.20	.22
	R5	.06	.09	.10
	R6	.00	.00	.00
(Music Orient)	R1	.51	.39**	.38**
	R2	.02	.04**	.05**
	R3	.19	.25**	.22
	R4	.20	.17	.17
	R5	.07	.07	.11
	R6	.00	.07	.08**
Principal's Letters	R1	.23	.24	.19
	R2	.44	.40	.42
	R3	.27	.30	.33**
	R4	.05	.05	.04

**NAEP data marked by double asterisks are statistically significantly different from the corresponding Washington estimates at the level .05.

SUMMARY AND CONCLUSIONS

In summary it can be said that Washington 8th grade students performed well on the limited areas tested in the Washington Reading, Mathematics, and Writing achievement survey. Although the items tested are not and were not intended to be comprehensive in coverage, they were none the less identified by Washington educators as being representative of some of the important basic objectives in Washington's schools.

The fact that many of the reading items were apparently easy for Washington students (i.e. many high p-values) compared to the math items (i.e. many p-values in the .40 to .60 range) raises a very important consideration. It is almost always necessary to have some point or points of comparison for a measure. A measure of the absolute amount of any quantity usually has limited meaning until or unless it can be interpreted relative to some other known amount. Hence the importance and the purpose of the inclusion of the national and western region results for comparison with the Washington results. These comparisons provide a point of reference for interpreting the Washington results and the comparisons suggest that Washington's 8th graders were generally at or above national and western region results in reading, mathematics, and writing. Of course, classroom teachers and curriculum specialists will have other points of comparison as well, based on their own experiences and knowledge of the capabilities of 8th grade students in particular programs. It is these kinds of comparisons, tempered with professional judgement and experience, that constitute the most appropriate use of these assessment results.

NATIONAL CENTER FOR EDUCATION STATISTICS / National Assessment Information

READING

National Assessment has found that, nationwide, an estimated 50,000 more 9-year-olds were able to respond correctly to a typical reading item in 1975 than in 1971.

Moreover, National Assessment found that the average percentage of black 9-year-olds answering reading items correctly increased 4.8 percentage points, while the average reading performance of white 9-year-olds increased by 1.2 percentage points. However, even with the greater increase in reading skills, black children are still 13 percentage points below their white counterparts in overall reading levels.

In the Southeast, the gap between black and white 9-year-olds' performance narrowed, with blacks gaining 7.7 percentage points from 1971 to 1975. The difference in achievement between whites in the Southeast and whites in the rest of the nation stayed much the same.

For the two teenage groups assessed, 13- and 17-year-olds performed at about the same levels in both 1971 and 1975. Some exceptions in 1975:

- The gap between teenage Southeastern blacks and whites narrowed.
- In the rest of the nation, reading skills of 13- and 17-year-old blacks declined.
- Whites in the Southeast improved slightly; achievements of whites in the rest of the country remained about the same.
- More 17-year-olds in 1975 were able to read basic, everyday items such as a telephone bill or instructions on a can of pet food.

Other results:

- While students in the Southeast are still performing below the national level, the Southeast 9-year-olds show significant gains in reading skills.
- As a group, girls continue to read better than boys at all age levels.

National Assessment studied the achievements of more than 63,000 students -- ages 9, 13 and 17 -- in each of two reading assessments.

Nationwide, 17-year-old students have improved in the basic reading skills needed to function in today's world. However -- among these same 17-year-olds -- over 21% of the students from the disadvantaged urban areas of our country, nearly 42% of the students who are black and 20% of the students from the Southeast are still functionally illiterate.

(continued)

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READING *(continued)*

The National Assessment survey, made for the Right to Read program of the U.S. Office of Education, compared the functional reading performance of 17-year-old students in 1971, 1974 and 1975. From 1971 to 1975 there was:

- An average gain of more than 2 percentage points on such basic reading items as street signs, store coupons and telephone directories.
- A gain of almost 5 percentage points by black students; white students gained 2 percentage points over the same period.
- A gain by students living in low-income urban areas of nearly 5 percentage points, while those from the affluent urban areas showed no gain.
- A gain by students in the Southeast of over 3 percentage points, while students from the Northeast showed no gain. Students in the West gained almost 3 percentage points; those from the Central part of the country gained about 2 percentage points.

Being functionally literate is defined by Right to Read as "being able to perform tasks necessary to function in American society, such as reading newspapers, instructions and even drivers' license tests." The National Assessment study included only those types of reading material considered to be at the functional literacy level. Over 4,200 students across the country were surveyed in each assessment.

The Right to Read program determined that 17-year-old students should be able to answer at least 75% of the questions in the assessment correctly (give correct answers to 64 out of the 86 questions). Any student passing this criterion could reasonably be considered functionally literate.

Using this as a guide, about 87% of the 17-year-old students are functionally literate. Among the four geographic regions of the nation, the percentage of literacy ranges from almost 91% in the Central region to 80% in the Southeast. Among white 17-year-old students, almost 92% reached the Right to Read criterion, contrasted with a little more than 58% of the blacks. Ninety-five percent of the urban-fringe students achieved the functional literacy criterion, while only slightly more than 78% of those from the disadvantaged urban areas did so.

First reading assessment: 1971
Second reading assessment: 1975
Third reading assessment: scheduled 1980
First functional literacy assessment: 1974
Second functional literacy assessment: 1975
Third functional literacy assessment: pending

WRITING

In a survey of writing skills taken first in 1970 and repeated in 1974, National Assessment found that, in 1974, students aged 13 and 17 used a simpler vocabulary, wrote in a shorter, "primer-like" style and had more incoherent paragraphs than their counter-parts in school four years earlier. Only the 9-year-olds' papers showed an improvement, with the proportion of good writers rising in 1974.

The writing assessment, which involved 80,000 students, included essay-type questions of three age levels -- 9- and 13-year-olds and 17-year-olds who ~~were~~ still in school. The writing of 17-year-olds, nearing high school graduation, declined in quality between the two assessments. The 1974 students showed an increase in awkwardness and run-on sentences and a tendency to write as they would speak.

Writing performance for 13-year-olds also declined. On the average, the 1974 essays were shorter, less sophisticated in expression and more awkwardly written than the 1970 essays

Researchers were optimistic with the new data that showed 9-year-olds improving slightly over the four-year span. And there was a feeling that the mechanics of writing -- punctuation, capitalization, verb agreement, spelling -- "seem to be well in hand."

What did concern educators and the public was the decline in coherency in teenagers' writing. Speculation as to reasons for the decline frequently singled out society itself: the influence of TV and advertising language and its abbreviated, fragmented sentences, together with continuity sensed visually rather than through writing. Textbooks and teachers, some writing experts said, are not keeping up with the language of their students.

Another speculation was the fact that there just isn't the need to communicate through the written word: the telephone is quicker and easier than writing a letter.

The best way to reverse the decline, language experts generally agreed, lies in "teaching writing by making kids write" and "by having more skilled teachers of writing" to juggle the incongruities of what is in textbooks and what youths read in everyday life.

In 1974, females were still writing better essays than males at all three ages. In the 9-year-old group, the writing performance of both males and females improved. At the 13-year-old level, both males and females declined in writing abilities, with males declining further than females in performance. At age 17 the female decline was greater than that of the males, but "she" was still writing better than "he" in 1974.

First writing assessment: 1970
Second writing assessment: 1974
Third writing assessment: scheduled 1979

MATHEMATICS

National Assessment's mathematics survey, conducted during the 1972-73 school year, involved more than 90,000 students ages 9, 13 and 17 and young adults 26-35. The math items required skills ranging from basic computational ability to knowledge of trigonometry and practical "consumer" problems. *Results show that the majority of 17-year-olds and young adults have mastered the fundamentals of addition, subtraction, multiplication and division when presented as computational exercises. But when it comes to applying these basic skills in everyday situations, these same young Americans flounder:*

- Less than one-half of the 17-year-olds and adults could successfully determine the most economical size of a product.
- Only 10 percent of the 17-year-olds and 20 percent of the adults could correctly calculate a taxi fare.
- Only 1 percent of the 17-year-olds and 16 percent of the adults could balance a checkbook.
- 45 percent of the young adults could not read a federal income tax table correctly.

There is a difference between the sexes in consumer-mathematics skills. It is usually assumed that women do a major part of the buying, but males consistently outperform females on exercises involving buying and household situations. . . and females also show a drop in consumer math skills as they grow older.

The NAEP survey indicates that the nation's youthful consumer has difficulty with any form of mental arithmetic. All age levels score low on the ability to estimate or approximate whether an answer is reasonable -- a skill that is considered vital for consumer survival.

- Adults have greater trouble with multiplication problems than do 13- and 17-year-olds, and they also fall below 17-year-olds' performance in working with decimals.
- Whites perform 3 to 4 percentage points above the national level, while blacks are 14 to 21 points below.
- Young people from the lower-socioeconomic areas perform 10-16 percentage points below the national level; those from affluent areas are from 6-8 percentage points above.
- The Northeast is above the national level at all ages; the Southeast is about 6 percentage points below; the Central and West areas are split: at the school-age levels, individuals in Central regions are a point or two above the nation, while those in the West are slightly below. Adults in both regions perform above the national level.

First mathematics assessment: 1973
Second mathematics assessment: scheduled 1978

SCIENCE

Science knowledge in America's schools is declining.

National Assessment officials questioned 90,000 students, ages 9, 13 and 17, about biology, chemistry, physics and other science-related topics. Study results were collected during the 1969-70 and 1972-73 school years, then compared. Based on the estimated 3½ million school-age students represented by the groups tested, the results show that:

- Approximately 65,000 fewer 9-year-olds nationally could answer a typical science question correctly in 1973 than they could in 1970.
- Approximately 70,000 fewer 13-year-olds could respond acceptably to a typical science question in 1973 than in 1970.
- Approximately 80,000 fewer 17-year-olds could answer the survey questions correctly in 1973 than in 1970.

Other findings of the NAEP science assessment:

- At age 17, big-city students show the greatest decline, dropping from just above the national average to 2 percent below.
- Inner-city areas are well below the nation and are not improving.
- Suburban students at all three age levels perform above the national level, although their rate of performance is declining at the same rate as the nation's.
- Males and females decline at all three age levels in answering typical science questions. The performance of 9-year-old boys is 2-3 percent above that of girls, 13-year-old boys perform 4 percent above girls, and at age 17 the average male outperforms the average female by 6 percent.
- The percentage of rural students who could answer a typical science question increased at all three age levels, a trend that, if it continues, could bring rural students up to the national average by 1983.

In a study of regional trends in science achievement for students aged 9, 13, and 17, National Assessment found that between 1970 and 1973 declines in science achievement were smaller in the Southeast -- an area which was undergoing major desegregation -- than in the rest of the country.

During that period, science achievement in the South did not decline as much as it did in the rest of the nation. In fact, the science knowledge of black students in elementary school (age 9) actually improved.

(continued)

SCIENCE *(continued)*

The data also revealed that although Southeastern 13- and 17-year-old blacks' science skills had declined during those four years, the declines were less than were declines of black teenagers elsewhere in the nation.

Student performance in the northeastern, central and western areas of the country all declined between 1970 and 1973. Except at age 9, the western level of performance declined the most, about 3.5 percent.

How well are today's public schools -- and society, in general -- equipping tomorrow's voters to deal with the many environmental issues that are appearing on the ballot?

National Assessment has found that, on the average, one-third of the nation's 17-year-olds and young adults aged 26 to 35 could not answer simple cause-and-effect questions about the environment. Thirteen-year-olds did even more poorly: only half could answer a typical ecology question.

A major shift in science education has taken place over the past 20 years. New science curricula emphasize an "inquiry approach," utilizing scientific apparatus and laboratory techniques and procedures as learning devices.

National Assessment assessed the abilities of 9-, 13- and 17-year-old students to use the inquiry skills stressed in the "new" science. Some findings:

- **There is a wide gap between the ability of students to demonstrate procedures and their ability to successfully explain these procedures. At all three age levels, the percentage of students able to do things is much greater than the percentage of students able to explain *how*, *why* or *what* they are doing.**
- **Blacks and females almost always demonstrate scientific abilities below the national median.**

First science assessment 1970
Second science assessment 1973
Third science assessment 1977

CAREER DEVELOPMENT

According to results of National Assessment's 1974 survey of career and occupational development (COD), 44% of American 17-year-olds desire a professional career while census figures indicate that only 20-25% of currently existing jobs are professional or managerial.

The COD study involved some 100,000 individuals at age 9, 13, 17 and young adults, 26-35. The survey sought to determine the extent to which young Americans have the abilities to make wise and informed choices for entry into the labor force.

For the assessment, career development was defined as accurate self-evaluation, thoughtful career planning, realistic attitudes toward work, employment-seeking skills, effective work habits and those skills, such as computation and writing, that were judged to be basic for a wide variety of jobs.

National Assessment found that:

. One-third of the adults and more than half the 17-year-olds had difficulty writing a job application and figuring a finance charge.

. More than 80% of the 13- and 17-year-olds had had some paid experience.

. Less than half the 17-year-olds had taken an aptitude test and only 16% had discussed the results with a counselor.

. Those with the least education and lowest income were also the ones most lacking the skills necessary to improve their condition.

. Only 54% of the 17-year-olds could correctly answer five questions about the amount of training needed for a specific, commonplace job.

. Nearly three-fourths of the 17-year-olds and more than half the 13-year-olds could name two places to find information about jobs.

More than half of the adults said they had taken some kind of continuing education and those who had taken such courses generally performed better than those who did not. *Ironically, those who had not graduated from high school and who theoretically had the most to gain from adult education or on-the-job training, were the least likely to have had either.*

At all ages, males did better than females on computation-measurement questions and females showed greater ability on written communication skills. The male-female difference on computation-measurement was distinctly larger for adults than for the other three ages assessed.

National Assessment will survey career skills and attitudes again in 1980. Because career education was just beginning to appear in schools in the early 1970s, the 1974 assessment will serve as a benchmark against which the progress of career education can be measured.

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BY AGE GROUPS

What do today's students know. . . and what can they do?

- 9-year-olds have learned many things in their first few years of schooling such as the basic reading and writing skills.
- 13-year-olds can read, write, add, subtract, divide and multiply -- if told to do so. But they don't, by themselves, use these skills in order to solve everyday problems.
- 17-year-olds have mastered the basic skills and know many specific facts in all school subjects, but they have difficulty organizing and applying their skills and knowledge.

Some of the highlights from a study by National Assessment that summarizes results from all previous assessments to develop a profile of each age group:

Age 9

NAEP found that 9-year-olds can read simple stories and write letters to their friends, and they know a variety of subject-matter facts. They are tolerant of people's cultural differences and believe in an orderly society. Over the last seven years, the reading and writing skills of 9-year-olds have improved.

Many 9-year-olds (more than two-thirds) can:

- Tell time.
- Add two-digit numbers.
- Tell the difference between even and odd numbers.
- Name the President and generally know how he is chosen.
- Read and comprehend literal facts in simple, brief stories.
- Write without making punctuation or word choice errors.

Some (approximately 33% to 67%):

- Can add a series of three- and four-digit numbers.
- Can subtract two-digit numbers.
- Can do single-digit multiplication word problems.
- Believe that every person's vote should count equally in an election.
- Understand that the federal, state and local governments have different functions.
- Understand taxation and credit buying.
- Know that there are 50 states in the nation.

But few (less than one-third):

- Can subtract three- and four digit numbers.
- Can do multiplication and division or understand fractions.
- Know the head of a state is called a governor.
- Understand detailed written instructions.
- Can organize and elaborate ideas in writing.

(continued)

BY AGE GROUPS (continued)

Age 13

Thirteen-year-olds have the skills and knowledge necessary to accomplish routine tasks at home and at school. They have developed some study skills and know a variety of useful facts; however, the idea that they could use these skills and knowledge to make their daily lives more interesting and productive is not always obvious to them.

Many 13-year-olds:

- Can add, subtract, multiply and divide whole numbers.
- Can make change.
- Understand basic facts about the solar system and universe.
- Know the functions of the major parts of the body.
- Have had paying jobs.
- Understand the basic functions of the court system.
- Can use basic reference materials.

Some 13-year-olds:

- Understand and compute with fractions and work word problems.
- Can manipulate algebraic expressions.
- Understand basic nutrition.
- Understand specific facts about the earth.
- Can read and understand detailed instructions.

But few 13-year-olds:

- Can organize and elaborate on ideas in writing.
- Understand the structure and function of the legislative branch of government.
- Understand the basic principles of economics.
- Know very much about the atom.

Age 17

Seventeen-year-olds have some knowledge of the world of work, have thought about their futures and know what attitudes and behaviors are expected of them in our society. They know a number of facts about our government and legal system and know a number of specific scientific facts. They have difficulty reading long passages and have limited vocabularies in writing. They can read, write and compute in well-structured situations, but they have difficulty applying their knowledge to new situations. Indications are that 17-year-olds' knowledge levels have slipped slightly over the past seven years.

Many 17-year-olds:

- Can add, subtract, multiply and divide whole numbers and decimals.
- Can multiply fractions.
- Can solve simple word problems requiring multiplication.
- Understand some facts about nutrition, illness and disease.
- Understand materials such as newspaper ads and telephone bills.

Some 17-year-olds:

- Know about human reproduction.
- Can convert decimals to common fractions.
- Can organize and elaborate ideas in writing.
- Can make inferences after reading a long paragraph.
- Can add fractions.

But few 17-year-olds:

- Can calculate the area of a square given its perimeter.
- Can simplify algebraic expressions.
- Can convert Fahrenheit to Centigrade given the conversion formula.
- Know the functions of the legislative branch of government.
- Have discussed aptitude test results with counselors.
- Can write excellent unified and focused essays.

CITIZENSHIP BICENTENNIAL SURVEY

According to a special Bicentennial survey given to 13- and 17-year-olds, National Assessment found that *just over half of the nation's 17-year-old students know that each state has two U.S. senators and that the number of U.S. representatives from each state is determined by the state's population. Only about 50% of both the 13- and 17-year-olds know that the President cannot appoint people to Congress.*

. *Even in light of recent political history 14% of the 17-year-olds and 12% of the 13-year-olds think the President of the United States does not always have to obey the laws of the land.* In fact, the students place Army generals and the President on about the same level: 12% of the 17-year-olds and 13% of the 13-year-olds think that Army generals don't always have to obey the law.

. When asked whether Congress or the President has the right to stop radio, television or newspapers from criticizing government operations, over 80% of the 17-year-olds and over 70% of the 13-year-olds recognize that such an act is against the rights of a free press.

. 32% of the 17-year-old students do not think it is important to vote in all elections nor is it necessary to vote if it appears that the candidate of their choice isn't going to win.

. Half the 13-year-olds think it is against the law to start a new political party, and few of the students at either age know what steps Congress is empowered to take to stop a president from fighting a war without congressional approval.

When asked whether getting a job should depend on one's sex, race, political opinion, religion or abilities and skills, nearly all students agree that the determining factor should be one's abilities and skills. However, when asked: "If you saw several students fighting in the hallway, what would you do?" only 37% of the 17-year-olds say they would either look for someone in authority or try to stop the fight themselves.

The National Assessment findings are from a select portion of a major assessment in citizenship and social studies to be released in late-1977. The Bicentennial survey was given to 5,000 students during the 1976 spring school semester.

The lowest scores for each age group are in response to the question: "Suppose the President sends troops to another country to fight. What action can the Congress take to stop U.S. participation in the fighting?" The fact that Congress can exercise its power of the purse by refusing to provide money for further military action is known by only 16% of the 13-year-olds and 22% of the 17-year-olds.

First citizenship assessment 1970
First social studies assessment 1972
Second citizenship/social studies assessments (combined) 1976 (Results to be released late 1977.)

1860 Lincoln St., Denver, Colo. 80295 · National Assessment · (303) 893-5200

IMPS

JUL 20 1977

July 16, 1977

Senator Claireborne Pell
Senate Office Building
Washington, DC 20001

Dear Senator Pell:

According to a recent article appearing in the July 16 edition of the Minneapolis Star concerning a Federal test for highschool students, featuring Ms. Mary F. Berry, you are quite in favor of Federal competency exams. I could not agree with you more, because I am a former educator who became quite disgusted with education and teaching and quit to enter industry where I am now a machine design engineer. One of the main reasons for quitting was the mistaken notion on the part of schools and their administrators and counselors who erroneious believed that people going on to vocational schools to learn a skilled trade, do not have to perform well in such academic skills as high reading ability, algebra, physics and other academic topics. The truth of the matter is that industry is crying for people who are competent in those skills.

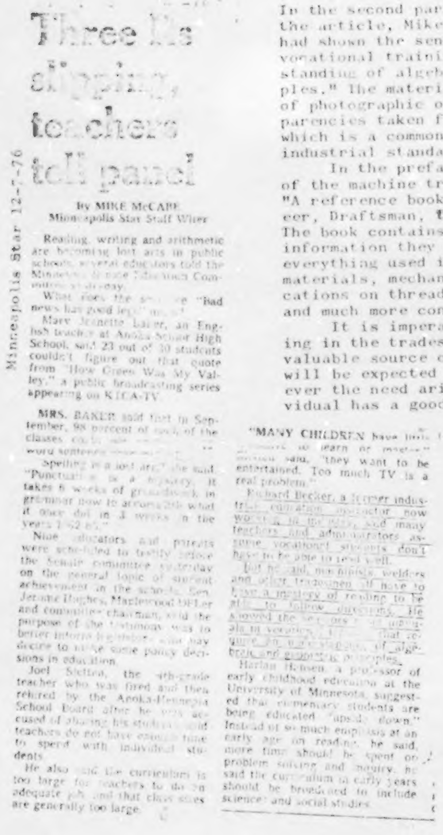
In fact, I am currently working with several industries in the Twin Cities, who want me to develop some instructional programs for them to use in training their own competent people. The reason is that the highschools are turning out a product whith very little on which to base a gond vocational program and become valuable to industry, with salable skills. They are disenchanted wven with the vocational schools themselves because they are not insisting on the right levels of skills that are of value to industry. However, unless the secondary schools turn out people with adequate basic academic skills, the vocational schools can hardly turn out qualified people.

I do know from experience that a machinist, draftsmen, welders, mechanics---virtually all skilled t5radesmen need adequate functional reading skills, and it is suggested that such tests reflect the functional level as it applies to an individual br coming a productive member of society.

I have already had some communication with Senator Humphrey on the matter, and I have already appeared before the Minnesota Sentae education sub-committee, as indicated by the attached article from the Minneapolis Star. I will be looking forward to your reply.

Sincerely,
Richard Becker
Richard Becker
IMPS
6425 Marlin Drive
Brooklyn Center, MN 55429

CC: 1 file
1 Sen. Hubert Humphrey
1 Hyman Rickover
1 Mary F. Berry



Minneapolis Star 12-7-76

Three R's slipping, teachers tell panel

By MIKE McCABE
Minneapolis Star Staff Writer

Reading, writing and arithmetic are becoming lost arts in public schools, several educators told the Minnesota Senate Education Committee yesterday.

What does the sentence "Bad news has good legs" mean?

Mary Jeanette Baker, an English teacher at Anoka Senior High School, said 23 out of 30 students couldn't figure out that quote from "How Green Was My Valley," a public broadcasting series appearing on KTCA-TV.

MRS. BAKER said that in September, 98 percent of each of the classes [illegible] word sentence [illegible]

"Spelling is a lost art," she said. "Punctuation is a mystery. It takes 6 weeks of groundwork in grammar now to accomplish what it once did in 3 weeks in the years 1962-65."

Nine educators and parents were scheduled to testify before the Senate committee yesterday on the general topic of student achievement in the schools. Sen. Jerome Hughes, Maplewood DFLer and committee chairman, said the purpose of the testimony was to better inform legislators who may decide to make some policy decisions in education.

Joel Sletten, the 4th-grade teacher who was fired and then rehired by the Anoka-Hennepin School Board after he was accused of shaking his students, said teachers do not have enough time to spend with individual students.

He also said the curriculum is too large for teachers to do an adequate job and that class sizes are generally too large.

"MANY CHILDREN have little [illegible] to learn or master," [illegible] said, "they want to be entertained. Too much TV is a real problem."

Richard Becker, a former industrial education instructor now working in the [illegible], said many teachers and administrators assume vocational students don't have to be able to read well.

But he said, machinists, welders and other tradesmen all have to have a mastery of reading to be able to follow directions. He showed the senators basic manuals in vocational training that require an understanding of algebraic and geometric principles.

Harlan Hansen, a professor of early childhood education at the University of Minnesota, suggested that elementary students are being educated "upside down." Instead of so much emphasis at an early age on reading, he said, more time should be spent on problem solving and inquiry. He said the curriculum in early years should be broadened to include science and social studies.

In the second paragraph from the end of the article, Mike McCabe stated that I had shown the senators "basic manuals in vocational training that required an undedstanding of algebraic and geometric principles." The material in question was a series of photographic overhead projection transparencies taken from Machinery's Handbook, which is a common industrial reference on industrial standards.

In the preface of the manual, the "bible" of the machine trades, it states that it is "A reference book for the Mechanical engineer, Draftsman, Toolmaker and Machinists." The book contains virtually all of the basic information they need to know on virtually everything used in industry, whether tools, materials, mechanical principles, specifications on threads, screws, washers, shafts, and much more contained in over 2,000 pages.

It is imperative that individuals working in the trades become familiar with this valuable source of information because they will be expected to use that reference whenever the need arises. And, unless the individual has a good reading ability and a good math background, that reference is going to be of little value, and he is going to be of little value to an employer.

It has been said by some "educators" that only foremen and supervisors need the basic skills and to use that reference. Such is not the case. Besides, most foremen attain their position by promotion from within. And, this promotion is given only when an individual demonstrates exceptional knowledge and capability which can only come from the reference manual, his "bib

The only connection that the handbook has with vocational education is that the instructors come from industry and they know from experience as to what skills are required for success in the given trade. As a result, the handbook is a required purchase, and the student will be expected to turn to it for the information he needs.

Dear Senator Pell, 9-26

I'd suggest that if you want to see how well educated are the products of your educational system one should look at what the graduate can DO. One should not ask an expert basket weaver whether the student is a good basket weaver but rather what's the value of a basket?

In other words, keep educational standards strictly reality bound. IE if one supposedly knows math then what can one do? Lay out sheet metal fabrication? Lay out a subdivision? Calculate interest?

In 1965, in high school, I asked my math teacher if there were "any practical application of what you're teaching us in the entire universe?" He replied "no".

I submit that this situation also exists in the "history" taught in public schools. So much has been omitted for political reasons that what remains is not coherent.

Yours truly,
D Parkhurst

Rev Donald R. Parkhurst
2209 Oakland Ave.
Covington, KY 41014

AUG 3 1977

MRS.
JOHN WALLWORTH

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HOT SPRINGS NATIONAL PARK, ARKANSAS 71901
AREA CODE 501/624-0355

July 27, 1977

Senator Claiborne Pell (Dem. R.I.)
Senate Education Subcommittee
Washington, D.C. 20202

Dear Senator Pell:

I read in Carl Rowan's column of your interest in establishing a national competency test for high school graduates.

A national standard in basic reading, writing, and arithmetic skills is a good idea, but not at the end of 12 years of public school. The time for such an examination is at the end of the eighth grade. The student who fails to pass it can then be routed into intensive instruction in reading, English and math.

Many young people do not get as far as the 12th grade but choose to leave school at 16. With a competency exam at the end of the eighth grade, these potential early school leavers could still hope to gain functional literacy before they quit. Likewise, by placing the competency exam at the end of the eighth grade, the last four years of high school could then become what they are supposed to be, a time of more mature study and not just a replay of grades one through eight.

Placing a basic competency exam at the end of the 12th grade could only make a bad situation worse. It would not touch the illiterate early school leavers who are swelling the criminal ranks. It would do nothing to stop the decay of higher learning. It would probably not even make a high school diploma mean anything more than it does now as local school boards would continue to dispense them by one name or another.

Establishing such an exam at the end of the eighth grade could raise the standards of education at every level. (Remediation of teachers would have to occur simultaneously, however, as so many of our teachers are badly trained. Legislation to alter certification requirements would also have to be undertaken.)

My suggestions are based on an unusual background of study and teaching that gives me a basis of comparison that most teachers lack. I know at first hand, for example, what a gulf lies between American and British standards for the bachelor's degree as I have two B.A.'s, one from an American university, and one from the University of London. I also know what can be expected of children grades one through 12 as my 12 years of teaching have included six years in a private school in London and six years in urban and rural public schools in the United States.

If you were interested, I could devise a program that would rehabilitate an existing school district in five years and provide a model for national education reform. My representative, John Paul Hammerschmidt, has a summary of some of my ideas if you would like to know more about them without my writing a really detailed description.

I hope that you and your committee can bring about a national competency examination, but not at the 12th grade level. To place it there would be to make official the growing attitude that the purpose of 12 years of education is mere basic literacy.

Yours sincerely,

Mrs. John Wallworth

Senator **Pell.** Again I apologize for the crowded room and for the necessity of having a recess.

The hearing is adjourned.

[Whereupon, at 12 noon, the subcommittee adjourned, sine die.]

QUALITY OF EDUCATION, 1977

THURSDAY, SEPTEMBER 22, 1977

U.S. SENATE,
SUBCOMMITTEE ON EDUCATION, ARTS AND HUMANITIES
OF THE COMMITTEE ON HUMAN RESOURCES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 6202, Dirksen Senate Office Building, Senator Claiborne Pell (chairman of the subcommittee) presiding.

Present: Senators Pell and Hayakawa.

Senator PELL. The Subcommittee on Education, Arts and Humanities will come to order.

This marks the third hearing of this subcommittee on the general issue of declining test scores in the areas of the basic skills of reading, writing, and computation. A recent Gallup poll reported that 83 percent of the population favors a back-to-basics movement. Parents are convinced that their children are not learning as well as they should.

One indicator of possible educational decline is the substantial drop in scores on the Scholastic Aptitude Test, a test more than 1 million students a year take to determine their eligibility for college admission. Verbal scores on these tests have dropped an average of 49 points in the 14-year period 1963–1977. The mathematics test scores have similarly dropped 32 points over that time.

In October 1975 the Advisory Panel on the Scholastic Aptitude Test Score Decline was asked by the College Entrance Examination Board to undertake an analysis of the scores' decline. Their report, "On Further Examination," was issued less than a month ago. It analyzes a number of factors which may contribute to falling test scores: a changing population of test takers, with more minorities and women now seeking to go to college than was true decades ago; decline in the requirement that students take basic English language and writing courses; television; Vietnam.

Today the subcommittee is particularly pleased to have as its witness the chairman of the advisory panel which made the report, the Honorable Willard Wirtz. Mr. Wirtz was Secretary of Labor in the Kennedy and Johnson administrations. He is currently chairman of the National Manpower Institute.

I look forward to Mr. Wirtz' explanation of the report's findings and conclusions, as I believe that they will be extremely important in our subcommittee's consideration of possible legislative methods to improve students' performance in the basic skills.

Mr. Wirtz.

STATEMENT OF WILLARD WIRTZ, CHAIRMAN, ADVISORY PANEL ON THE SCHOLASTIC APTITUDE TEST SCORE DECLINE, COLLEGE ENTRANCE EXAMINATION BOARD

Mr. **Wirtz**. Thank you, Mr. Chairman.

I have no special written statement. The hearing was arranged on what turned out from my standpoint to be quite short notice. I would be grateful if you would accept the report of the panel, to which you have referred, in lieu of other written statements.

I would be glad to summarize briefly the report, or, in the alternative, to answer any questions you might have. In that connection, I have had the opportunity to go over the statements which were submitted in the July sessions of the subcommittee.

Senator **Pell**. I think if you could tell us maybe a little bit of the terms of reference you had in doing your report.

Mr. **Wirtz**. That is important to your purposes, Mr. Chairman, because it is critical to an understanding of the report to know that its charter was comparatively narrow. The panel did, in one section of the report, go into the results in recent years of other academic tests of one kind or another. However—and this is the critical point—we were looking at the question of why a particular set of scores—on the Scholastic Aptitude Test, the SAT—has declined. That test is devised to predict what the young people will do in their college courses in their academic work, particularly in the first year. It would be wrong to generalize too broadly from the results on the SAT alone.

Over the 14-year period of the decline of the SAT scores, there has been an extraordinary change in the population and the mix of the population of young people taking this test. That must be taken into account.

So it was part of the panel's responsibility to try to separate out what we came to call the "compositional" changes resulting from the changes in the mix of the population from those changes over this period which have had a more pervasive effect upon the student taking the group as a whole.

In direct response to your question, it is important to realize that this is a measure of the results on a test which has a particular purpose, that purpose being to predict how young people will do in the first year college courses, and therefore it is important to exercise considerable constraint in generalizations from the data regarding these SAT scores. The panel did not go at all fully into the broader question of the validity of the testing function generally, but did recommend quite strongly a review of the testing function.

Senator **Pell**. As I understand you then, your thought is the one basic reason for the decline in the scores is the change in mix of the students taking the test rather than the other factors such as television and Vietnam and so forth?

Mr. **Wirtz**. There was an interesting development in the course of our analysis which was concentrated on a 14-year period, from 1963 to 1977. We found in the first stages of our investigation a disparity between various figures, which we simply could not understand as we tried to compare one set of results with another. They just didn't jibe.

Then we came to the realization that there had been really two stages of this decline, so markedly different in their timing and in their nature that we came to talk about two SAT score declines. In direct response to your question, from 1963 to about 1970, we find that between two-thirds and three-quarters of the decline was attributable to the changes in the composition of the test-taking group. That was during the period when the historic decision was made in this country to increase very substantially the percentage of young people staying in high school and going to college. That change in approach coincided with an extraordinary increase in the absolute numbers involved, so that in a single year, between 1963 and 1964, as a consequence of the postwar baby boom, there was an increase of over 1 million 17- and 18-year-olds in this country.

So during that first period you had a much larger number of young people staying in high school and going on to college, with a consequent change in the composition of the group.

The figures are about reversed for the period since 1970. There have been some continuing compositional changes, but they have been relatively slight. On the other hand, the change during the second period has been across the board, affecting all different groups of test takers, with no more than 20 to 25 percent of the decline since 1970 attributable to constitutional changes.

Senator PELL. Was the rate of decline about the same throughout the whole period of time?

Mr. WIRTZ. No, it was relatively gradual between 1963 and 1970. Starting in about 1971 or 1972, there was a precipitous drop which extended for 3 years; then during the last 2 years there has been a relative leveling out of the decline.

Senator PELL. You mentioned that this 3-year period was the most precipitous, 1972–75, and you also mentioned in the report, I believe, a great disruption in the lives of the students taking the test at the time, such as the war, the national change in values. But all of those things occurred before 1972, not afterwards.

Mr. WIRTZ. We tried to trace that back. It is very hard to know what period is most important with respect to the analysis of elements which show up at the 18-year age level. We came to a kind of rough working conclusion that we had to look at about a 5- or 6-year period before the test scores. Maybe we should be going clear on back to the early childhood stimulation; I don't mean to dismiss that. But our reference to what we call a decade of distraction was to a set of developments which took place starting in the mid-1960's and extending into the early 1970's, all of which we thought might have had an effect on the motivation of the students and on the taking of their tests. So when you are talking about 18-year-olds', high school seniors', test scores in 1972 to 1975, you must look in our judgment at a period which started perhaps with the assassination of President Kennedy, went on to include the Vietnam war, and then a period of corruption of leadership in this country.

Senator PELL. Would you give any weight to some of the different factors—the television, increased television, the Vietnam war, the decline of the family, et cetera?

Mr. WIRTZ. Yes, although it is impossible to attribute any precise weighting to the effect of such things as the Vietnam war and television on the attitudes of youngsters and the test scores.

So far as television is concerned, we did try to analyze the effect of the fact that young people at age 18 now have watched between 10,000 and 15,000 hours of television. They have spent more time watching television than doing anything else except sleeping. They have spent more time watching television than they have in school.

We have tried to relate that to the effects on home work and so forth, but there is, Mr. Chairman, an interesting difficulty as far as statistical analysis is concerned. Starting in about 1960 the percentage of people, including young people, watching television in this country became so high that you can't get a "control" group of non-television-watchers. So I cannot say to you that we can support statistically the relationship between television and the test scores. Exercising what was necessarily a subjective judgment however, the panel did conclude that there is unquestionably a relationship between the two.

We went on to try to analyze, but it was literally beyond our competency, the implications of the apparent fact that when an individual is watching television he or she is using the right lobe of his or her mind, and when that same individual is reading, the use is of the left lobe.

If you spend 15,000 hours before you are 18 watching television, which involves the exercise of a function identified with one hemisphere of the brain, and you then sit down to take an examination which calls upon the exercise of the function of the other hemisphere of the brain, it stands to reason that this will be reflected in some reduction in some test-takers' scores. Yet I suspect that what I am saying will, 15 or 20 years from now, turn out to be inaccurate.

We did conclude, in answer to your question, that there is enough evidence to warrant the suggestion that there is a relationship between these two things—television on the one hand and the test scores on the other.

I add, however, a footnote. Although our conclusion may be taken as a criticism of television, it is recognized in the report that television is probably the greatest potential teacher we have. We refer to it as a master but unprincipled teacher, and our conclusion is not that there should be less television but that the community should exercise the same responsibility with respect to the education that goes on through television as it does with respect to the education that goes on through the schools: that when the community does make that judgment, we will have television on the plus side instead of the negative.

Senator PELL. Did you run into any youngsters who had not been exposed to the electronic babysitter?

Mr. WIRTZ. That was our problem. We can't find them in the United States since 1960. We can't find our control group because over 95 percent are watching television.

There are some studies in the 1950's, late 1950's or early 1960's, in which the analysts did set up a television control town in a remote area of Canada. One of the more sophisticated studies was made in Tokyo in the 1960's. The only trouble is none of those studies took any account of other variables, such as socio-economic status.

Senator PELL. The Scholastic Aptitude Test is a measure of testing verbal skills. We have had some hearings in this committee concerning the idea, which I share, that there should be some voluntary tests of competence in reading, writing, and arithmetic for all high school graduates, not compulsory but voluntary. There has been some evidence it should be compulsory. Admiral Rickover was our star witness for that viewpoint. On the other hand, we have had the testing people themselves who say they are opposed to the idea, period.

What would your own view with regard to the thought that there should be a system of voluntary tests more or less as a means of jacking up the different schools to require that you have a higher level of curriculum, so that the students who wanted to take the test would have a better chance?

Mr. **Wirtz**. I recognize the subcommittee is particularly interested in this, and I should preface my response to your question with the warning that I simply don't know what the right answer is on this at this point.

Our habit is to institutionalize fault, and the easiest target here is the schools. In the panel's view, however, it would be a great mistake to identify responsibility here exclusively with the schools.

Let me give you just one illustration of other areas which seem to us to require recognition: The number of children in this country under 18 living in less than complete families, with one parent or with none, was 11 percent in 1960. That figure today is 20 percent. There is an increase of 300,000 per year in the number of children under 18 living in less than complete families. We think this is almost certainly related to the test score decline;

Admiral Rickover is talking about tests in terms of something that could be used as a measure of the schools' performance. The problem is how to establish measures which also take other factors into account. I am frankly dubious about the wisdom of setting up some single national standardized test which will concentrate attention solely on what the schools are doing. This is only part of it.

There is another point here. We haven't started to exhaust the information which is currently available, which will tell us more about how to interpret the data we have and the direction our improvement of the testing procedures ought to take. There is a developing body of data regarding the personal characteristics of the students taking various tests. There "biographical data" warrant much larger attention.

Both the College Board and ETS and the American College Testing Program, the sponsor of the other principal college entrance examinations, give, in addition to the aptitude tests, what is called as far as the College Board and ETS are concerned, a student descriptive questionnaire. Over 80 percent of the students taking the SAT also fill out this student descriptive questionnaire, which provides about 70 or 80 items of information. We are not going to know what these scores actually indicate as long as we deal in overall national averages. We will know a great deal more about the causal factors in the score changes when we carry forward further the analysis of the characteristics and circumstances of the various groups of test-takers.

We are of course concerned, and properly, about the rights of privacy of the individuals involved; but there are answers to that. Perhaps the larger concern, less justified, is about the possibility that this scrutiny of biographical data will seem to reflect critically on various other institutions, including the family. On the College Board/ETS Student Descriptive Questionnaire one of the questions is, "How many other children are there at home?" This is a relevant point, and research regarding it indicates a probably significant correlation between individuals' test scores and the number and placement of children in the family. The questionnaire doesn't ask, though, how many parents there are at home; and this is probably an even more relevant piece of information.

So we should do two things: First, develop the biographical data base which is necessary to evaluate the scholastic aptitude information; then, second, start developing longitudinal studies so that we can follow the same individuals on through instead of taking snapshots of different groups each year.

I mention one other thing. This talk of larger reliance on standardized tests prompts serious concerns about the possibility of establishing minimum standards which then become the controling standards for this society. If there is danger that teachers will start "teaching to the tests," and that the society and the community will be satisfied if enough members reach the minimum.

In early August, there was a story in the Washington press about the plan in this city to give not only standardized tests to all students in 26 schools but to provide standardized teaching materials, standardized daily teaching routines for all students in all 26 schools. This will probably raise the test score average in the District of Columbia. But at what needless price? The sponsors of this program rely expressly on B. F. Skinner's proposition that if you can condition pigeons, as was done during the war, you can condition children. This is true, but you shudder at the implications of what that does to the individualization of education.

I think finally, Mr. Chairman, that the conductive prospect is that we will negotiate out at the local community level the apparent conflict between the public demand for accountability, and the position some teachers are taking regarding standardized tests which they maintain will constrain individualization of education. Both sides of this argument proceed from good sense. The two positions can be reconciled.

Senator Pell. I invite the attention of the press to the copies of the individual list. You know exactly what everybody is studying on Thursday morning at 10:31, and I am not sure I agree with you that unified scholastic systems or whatever you want to call it means that you might have a 1984 population emerging.

Mr. Wirtz. I believe the paraphrase goes beyond my statement. I agree with what you have just said. I would still hold rather strongly to the feeling that the ideal education is not one which gives every single student in every single class in the 4th grade or in the 12th grade in the District of Columbia exactly the same educational diet day after day.

Senator Pell. The only students who have taken the SAT's are really those who are college bound. If those scores have been dropping, wouldn't it be equally a valid presumption to believe that the scores of students who are not taking the SAT's would also be dropping?

Mr. WIRTZ. To the contrary. This is hard to state, but perhaps if I try often enough I will understand it fully myself. If you had given the SAT to 10,000 18-year-olds selected at random in 1963—not just those in school, but all 18-year-olds—and then were to give this same test to 10,000 18-year-olds selected at random in 1977, I think the second group's average would be higher than the first group.

Senator PELL. Why?

Mr. WIRTZ. Because one of the largest reasons, if not the largest reason, the SAT score average went down is that it is given only to those who are in school. Those in school at the 12th grade include a larger percentage now than it used to of students with low academic performance or developed capacity.

The point can be made in another form. Considerable attention has been given to the fact that the standardized scores have not dropped at the first four academic grade levels. The averages have declined more as you go up each grade level. They have gone down the most at the 11th and 12th grade level.

The conclusion generally drawn from this is that there is something defective in the teaching that is being offered. It is not at all clear. The composition of the test-taking group at the first 4 or 5 grades is the same as it was before; but because of the increased retention rates, there is a different composition when you get to the 11th and 12th grade.

I make the point one other way. We see comparisons made between the scores of American youth and the youth of other countries score on internationally administered standardized tests. The countries involved include, as I remember it, Sweden, Britain, West Germany, France, Japan and I believe Italy. Those tests, when they are given to 12th graders in those 7 or 8 countries, show the United States coming out at the bottom. Yet when the tests are given to cross sections on an age basis, rather than to students in school, the United States comes out at the top. This reflects the fact that we retain a larger percentage of our young people in school.

I think, Mr. Chairman, in answer to your original question, that the average for the youth community as a whole—not just those in the 11th and 12th grade, but for the youth community as a whole—is probably higher than it was 14 years ago, but I can't prove that.

When the national assessment of educational progress program really gets under way it will meet the problem. As a matter of fact, the only age cross sectional information we have not limited to students but to populations as a whole, is the AFQT data, given during the period of compulsory military service in this country. Those figures are not really solid. They are the only figures we have which are not limited to students, and they went up fairly sharply between 1965 and 1972.

Senator PELL. Do you consider the SAT tests in any way culturally biased, or have they been able to somehow rule out such bias?

Mr. WIRTZ. We looked as far into that as we could, and yet I could not give you a complete answer. My own personal judgment is that they are not culturally biased in the usual sense of that term.

First, we looked at the test preparation processes, to see how many women and how many men are working on the development of these tests, how many whites and how many blacks. Then we looked at the kinds of committees that are set up to review the questions. As nearly as we could tell, these processes have been developed to the fullest practical, indeed possible, point to remove cultural bias.

We looked next at a data base which is available; namely, the base involving the data which called the valadity of the SAT, its predictive validity: The correlation between the SAT scores and the actual performance in college. On that there is no evidence of cultural difference. The test apparently predicts as validly in the case of minority groups as it does in the case of whites.

Toward the end of our investigation we came to a point that impressed us greatly. Black students average 100 to 120 points lower than whites on the verbal test. The difference is more than that on the mathematics test. We would have thought that if there were cultural bias it would show up more plainly on the verbal test than it would on the mathematics test. When we found that that was not true it seemed to us to be a basis for answering your question, which I do subject to reservations. I think the biases are in the society, Mr. Chairman, not in the tests.

Senator PELL. At the undergraduate level, the scores on the graduate record examination, which as you know is the test used for graduate school entrance, have gone down, but you say in your report that the tests for medical school and law school have gone up. How do you explain this?

Mr. WIRTZ. The scores on the legal and medical tests have gone up, that is correct.

Senator PELL. They have gone up?

Mr. WIRTZ. They have gone up.

Senator PELL. The scores on the graduate entrance examination have gone down?

Mr. WIRTZ. We think the reason is because of the high motivation which attends the attempt to get entrance to the law schools and medical schools, and the high level of competition. A good many of the best students using that term on the basis of high school grades and college grades, used to go on to get doctorates in the humanities. They are now apparently shifting to the law schools and medical schools. We have not analyzed this all of the way out, but I am relatively confident that the reason the legal and medical scores have gone up and the GRE averages have not, is because of a change in the composition of the test-taking groups, reflecting increased competition for law school and medical school entrance.

Senator PELL. I note that the college boards have recently added a written essay as part of the English composition achievement test, and your report applauds that step. I want to be sure you consider a test of writing skill feasible to include in a nationally given test.

Mr. WIRTZ. Yes; we do. There has been some considerable experience with that. There are sophisticated ways of grading those tests.

Senator PELL. How much value do you think you ought to place in the SAT test generally indicating where our society is, if only a small portion of our citizens take these tests? I guess what I am driving at here is how indicative of the society as a whole do you consider the scores of the SAT tests?

Mr. WIRTZ. Mr. Chairman, if the results of the SAT and ACT tests stood alone and they were different from the pattern of tests generally, my answer would be that we should not use them as broad social indicators of the state of learning in the society. The pattern of the decline in the SAT scores is paralleled very closely by the ACT scores, and it is paralleled very closely by the pattern of decline in the tests given in several States over the years, notably Iowa and Minnesota, but also some others, to the high school student body as a whole. They parallel quite closely the results on other tests given nationally.

There are three interesting deviations in the pattern. One is in terms of the grade level. The declines are larger at the 12th grade than they are at the lower grades. The SAT achievement tests have not shown as much decline as have the scholastic aptitude tests. There is also an inexplicable difference between the declines on the verbal and on the mathematics tests.

Given all those things, my answer to your question is that in context they do become a valuable indicator of the state of learning in the society today.

Senator PELL. This question has been submitted on behalf of Senator Hathaway. I would like to ask you to elaborate on the findings of your report regarding the performance of the SAT's on those students who work up to 15 hours per week part time.

Mr. WIRTZ. Yes. One of the these brought to the panel's attention was that the increasing emphasis of career education, vocal education, experimental learning, and so fourth has detracted from the emphasis on the "basics," and that this was a reason for the decline.

We looked into that as far as we could. The most relevant evidence seemed to us to be the figures we have from the student descriptive questionnaire on the performance of students who spend a certain amount of time working. Students doing outside work, from 6 to 15 hours a week, have averaged substantially higher SAT scores over a period of years than those who do no work. Their decline over this period has been somewhat less.

Yet any comparison of this kind is subject to cross-examination in terms of whether there are other variables involved here. Do the higher scores result from students doing outside work, or is it that their getting higher scores and doing outside work have common roots? In any event, we found no evidence whatsoever that career or vocational education results in lower college entrance examination scores.

Senator PELL. Could you elaborate on the results of surveys contained within the SAT's which sought information from students applying for special help that students felt they need?

Mr. WIRTZ. This is another interesting and I think significant story. We tried very hard to find whatever we could about motivation because we kept having the feeling there is a motivational element in this whole picture. We were interested, therefore, in a series of questions included in the "Student Descriptive Questionnaire" asking the testtakers whether they expected to seek help in connection with several of their needs. The form of the question is about this: Are you going to seek additional help in mathematics? Are you going to seek additional help in reading? Studying habits? Writing? As long as you limit it to those questions, their answer is a resounding no.

Asked whether they will seek help with their reading, 11 percent said yes and 88 percent no. That is about the answer across the board—until you come to the question of whether they are going to seek help in finding work, whether they are going to ask for vocational and educational counseling? On that question, a very substantial number between 35 and 40 percent, say yes.

Senator PELL. One of the conclusions of the report was that students today show less motivation to learn than their predecessors did. Do you think that vocational education or career education could reverse this trend?

Mr. WIRTZ. As to motivation, the report also suggests that the curve of the SAT scores reflects quite clearly the entire society's self-esteem, self-respect, and I think motivation. I guess I question whether the change in youth motivation has been basically different from the change in this society's motivation over the period we are talking about.

I think there has been a decline. It seems to me that we went through a terribly tough period in this country and it did affect our attitudes toward standards in general. It did affect our motivation. It did affect our sense of purpose. The change was concentrated as far as younger people were concerned on their attitude towards education. They centered their protest on the whole educational system. Yes; I think there was a decline in motivation during that period.

Senator PELL. In this regard, we have the responsibility, you know, in the Congress for appointments to the military academies. One of the things I have sought for years is to figure out any kind of written test to determine motivation. I have talked to the various testing groups, and they say there is no such thing as a written test that can determine motivation; that this can only be done on a one to one basis in an interview.

Mr. WIRTZ. I would agree with the first part, but I would think the second part stops short. How you find out about motivation by asking the individual I don't know. I don't think you can do it, that way, but I wouldn't conclude that there is no way of doing it. It seems to me the best measures of motivation are those which approach this question from some experience established basis. I think you can determine motivation. You can get a good measure on motivation by asking a number of questions about the individual's experience and interests and so on and so forth.

Senator PELL. Will you submit for the record your thoughts with regard to motivation, your suggestions of things that might make for motivation tests?

Mr. WIRTZ. I will. I don't know how much good they are. Part of my own purpose is to develop that whole area further. It intrigues me. My guess is that there is a direct connection between the number of parents at home and the motivation of the individual. I suspect the motivational factors center more in the home and the society than in the schools.

One group whose scores have not gone down much in the last four or five years, includes students who have engaged in a substantial number of extracurricular activities. I believe there is an important motivational point here.

Senator **Pell**. Thank you very much indeed, Mr. Wirtz, for being with us and elaborating a little bit on your excellent report. We look forward to studying it further and getting your views.

Mr. **Wirtz**. Thank you very much.

[The following material was subsequently supplied for the record:]

DEPARTMENT OF PUBLIC SCHOOLS
150 WASHINGTON STREET
PROVIDENCE, R. I. 02903

JEROME B. JONES
SUPERINTENDENT

9 1977

September 14, 1977

The Honorable Claiborne Pell
United States Senator
325 Old Senate Office Building
Washington, D. C. 20510

Dear Senator Pell:

Pursuant to your letter of August 9, 1977 relative to the testimony which was presented by Admiral Rickover at the Subcommittee on Education, Arts, and Humanities hearings, I submit to you my thoughts on this subject which I would like to have included in the hearing record. They are as follows:

1. Competence in the Basic Skills is of primary importance to the nation.
2. It is possible to develop standardized testing for Basic Skills at selected grade levels--perhaps K, 2, 4, 8, 10, and 11.
3. There is a substantial diminution in students acquisition of what we typically refer to as the Basic Skills (listening, reading, writing and speaking logically and clearly).
4. The lack of Basic Skills acquisition is manifest in not only elementary and secondary school students but in students enrolled in our higher education and graduate programs.
5. Many individuals are not able to make critical decisions for themselves. This problem again is widespread at all levels.
6. Parents do have the need and the right to know where the schools and their children stand academically. The parent has the right and responsibility to assist the child's education by requiring that the schools which they support do, in fact, at least provide their children a basic education. To do this parents must know where their children stand in relation to national, regional, and local student achievement levels. I support Mr. Rickover's proposition that the abolition of normed tests and the failure to disclose the results would be a violation of the parents' and students' right to know.

   Providence has, in fact, been most open in its testing program. Students are tested and both students and parents are informed of the results and the School Committee and public are provided extensive analyses of the district results.

7. On the subject of grade inflation, it is most difficult to determine what standards for an A, B, C, grade are.

   Often students leave our schools with good grade records and find they are not able to read, write or communicate well enough to hold a decent job. Rickover is correct when he says "when demands are low, students get higher grades and learn less then they would had the demands been higher."

8. Only a minority of our students are able to clearly organize their ideas on paper. This fact was reflected in the National Assessment of Education Program. Rickover provides much convincing evidence to support the claim that student scores continue to decline on national standardized tests. He hits at several causes for this decline. I agree with him on several points:

   a. Self-paced instructional programs generally do not work as well as structured instruction. Causes for the lack of success as self-paced instruction, open education, etc., are several. Probably the most important reason being the inability of school administration and teachers to properly manage self-paced instruction. Teachers and students must be extremely well organized to allow effective self-paced instruction. Also, the problem of providing constant attention and support to the learner as he or she moves through self-paced instruction is a major problem for teachers.

   b. Educational experts are completely split on philosophical matters. The theorist pushes for freedom of the child to learn at his/her own pace. Many practitioners stress structured instruction along a more traditional line. The selection of a philosophy today is pretty much left up to every individual teacher and administrator. The ability to mobilize a best method of instruction remains caught up in the battle of philosophy and academic freedom.

I agree that the teacher lesson plan is important to student achievement. As Rickover says, parents share the responsibility for inadequacies in our children's academic skills. They often do not spend enough time helping the child to learn. Excessive television viewing is also related to poor student achievement. There is also a decline in enrollment in Basic Skills related courses which have been substituted by electives.

Students today are not required to read books and other printed matter as much as they did in the past. Freedom of choice, poor reading habits, and lax homework policies have led to decline in reading skills of students.

The Honorable Claiborne Pell
September 14, 1977
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The problem of selection of teachers best able to teach Basic Skills is critical. Teacher preparation and selection is most important. More teachers themselves well versed in the Basic Skills are needed.

For the School System, the best solution to the problem of declining student achievement in the Basic Skills seems to be the one we now promote:

1. Establishment of minimal competencies in the Basic Skills K-12.
2. Provision of a strong developmental reading, language arts and math curriculum.
3. A strong remedial Basic Skills program for students in need of such a program.
4. Development and implementation of a testing program to assess the Basic Skills at critical points in time.
5. Use of nationally normed achievement tests to determine achievement levels of students in the school district to students across the nation.
6. Staff in-service training for teaching the Basic Skills.

While we are implementing systematic procedures to improve the Basic Skills achievement levels of students, there are many areas which make this job most difficult.

1. Lack of strong parental support and involvement in the child's education.
2. Lack of a well functioning classroom/school supervising structure.
3. Lack of Basic Skills instruction across content area at the middle and secondary school level.
4. Inadequate preparation of staff to teach Basic Skills.
5. Poor enforcement of homework policy.
6. High student absenteeism and lateness.
7. Social promotion.

Thank you very much for giving me the opportunity to make these comments, and I look forward to meeting with you again soon.

Sincerely,

Jerome B. Jones

Jerome B. Jones
Superintendent

JBJ:ecm

edc education
development
center

SEP 21 1977

September 15, 1977

The Honorable Claiborne Pell
Chairman, Subcommittee on Education,
Arts, and Humanities
Committee on Human Resources
United States Senate
4228 Dirksen Senate Building
Washington, D.C. 20510

Dear Senator Pell:

Thank you for your letter of August 9 giving me the opportunity to add to the testimony which you have been taking regarding tests as a basis for setting standards of competence throughout the nation. Mr. Maroni of your staff has been kind enough to supply me with what I take to be most of the testimony that has already come before you, and I find that it is mostly negative or defensive, like the general present clamor about testing. I would prefer to take a positive position.

The negative case is well put forward, for example, in a recent book, *The Myth of Measurability*, of which I am enclosing an additional copy. It is necessary to understand what's wrong with the tests now, before we can move sensibly toward improvement.

The only generally valid rule about education is that it takes all kinds to make a world. People, especially children, come in such varied styles, ages, sizes, tastes, needs, capabilities, interests, and backgrounds that schools, which must cater to this variety, have a very difficult, if not an impossible, task. Yet the schools, as well as the general public, have allowed themselves to be dominated

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by mechanisms that force homogeneity instead of variety. The worst of these are the large-scale tests -- especially statewide, nationwide, or international.

I have often referred to the testing establishment as the Gestapo of education systems, enforcing uniformity and rigidity.* Its hallmarks are arbitrariness, secrecy, and intolerance.

Most important, secrecy in testing is not necessary. (If you wish to see the detailed evidence, I would be happy to submit it to you formally.) To the contrary, it is possible to make tests which can be made available to students, teachers, parents, and the public generally, with no loss in testing value. I can send you examples. The Present situation of test secrecy is not only intolerable, but a farce. The senior security official at Los Alamos in 1945, immediately following the Alamogordo test of the atomic bomb said, "Now you fellows will want to keep the Mississippi River secret." Partial secrecy is worse than none.

Open tests, openly available are an absolute prerequisite for obtaining any kind of national consensus on what skill, knowledge, capability students may have, and for assuring that students do have any or all of these.

Detailed subject matter is a prerequisite for deep understanding, in teaching, learning, and testing. But the subject matter is the *vehicle* for such understanding, rather than just an end in itself. Thus we must make the vehicles -- which carry the understanding -- varied enough to permit all our children to participate gladly in the testing. A child who can easily handle the numbers involved in baseball scores may not be equally comfortable with numbers in the context of unit pricing. Perhaps we want to insist on students understanding unit pricing. If we do, sobeit. But in either case, the public must know what the aims are, through access to the tests themselves.

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* It is no coincidence that Banesh Hoffmann called his early book on the subject *The Tyranny of Testing*.

My examples come from the quantitative arts rather than the language arts only because I am more deeply engrossed in these problems at present. But whatever I say about one is equally applicable to the other. Tests for speaking, listening, reading, and writing can be just as diverse and non-secret as tests for the mathematical arts.

In March of 1976, I wrote the following:

1. It is possible to invent tests that are valid and diagnostically useful in sufficiently restricted areas of intellectual competence, such as skill in using the algorithms of simple arithmetic. Such tests should examine a child's competence, not against performance of other children, but against explicit and defined criteria of accomplishment. Examples of such tests exist now.

2. Furthermore, it is possible and desirable to make tests of this type that can be published freely and openly, before and after they are administered. To release a child's score without making the test itself available is like giving a runner's time without the length of the course. Secrecy prevents the *users* of test scores from knowing whether a test is well or poorly designed -- and what, in fact, it does or

doesn't test. Secrecy protects those who prepare and market the tests from the criticism that is necessary to check any arbitrary act. Secrecy bears a large share of responsibility for the debacle into which the testing system has fallen, and for the rapidly spreading revolt against it on the part of knowledgeable educators throughout the country.

3. As for using tests to rank children in some sort of numerical order, I believe this could be done if the tests were like those described above -- sufficiently limited to areas of intellectual competence. Nevertheless I would still oppose doing it. The result would be positive, in terms of judging and helping children, only if tests were given in enough different skills that every child could excel in something -- so that each child would find some emotional reward for excelling. This is a bigger job than tests should try to accomplish, and therefore is impractical. I am even more strongly opposed to tests that are extended beyond the carefully restricted scope that I have been discussing. If they seek to rank children by aptitude or "intelligence" -- no! By averages of disparate qualities -- never! Ergo, tests like those called "IQ" or "Aptitude" should be abandoned forthwith. Research on that kind of testing is sorely needed and may require more time than I would care to guess, before such tests could be safely used to sort children.

With respect to any type of competence, people can be divided roughly into three groups: (1) those who can clearly do it, (2) those who have not done it yet, and (3) the great middle ground for whom the prognosis is vague but optimistic.

Anyone who pretends to interpret test scores with precise numbers, even statistically, even by averaging millions of scores, shows a misunderstanding not only of people, but of statistics itself. Here errors do not cancel one another; they add up. The only three useful scores are: (A) great, (B) OK, (C) not yet OK.

In itself, putting school children in some kind of order is permissible. People really do want the answers to: Where do I stand? Where does my child stand? How good is his teacher? How advanced is the class?...and so on. This is not just competitiveness; parents and teachers simply want to know how their children are doing. Should I worry if my child does not walk until the age of three years? Two years? Eighteen months, or nine months? But putting students in order is tricky. And the tests should not add to the trickiness.

When the battle or the war is not going right, as with testing, it is always tempting to blame some person or some group -- the public, the educators, the teachers, school administrators, schools of education, publishers, the testers, the government, and so on. Blame leads nowhere. In a recent letter to the appropriate staff member at the National Institute of Education, I made the following observation:

> What, then, should be done about the present plight of the testing process? It should be analyzed in terms of three time scales: immediate, middle term, and long term. It

should be broken down into three age groups: elementary and junior high, secondary school, and college. And it should be separated into two quite different types of subject: basics such as language and mathematics, and what I call "tapestry subjects" that deal with interwoven uncertainties and problems to explore, such as the natural and social sciences, history, art, and the like.

The long term goal is to mobilize the education system and the financing from the Federal Government to build up groups of people who can prepare decent tests -- as exemplified by several of the medical boards, such as the boards of medical examiners (but not the Medical College Admissions Test). An assault on the testing problem will require a buildup of funds from half a dozen million dollars immediately to 100 million dollars a year. It will require a mechanism for exploiting exponential growth, to build up cadres of competent test-makers. The time scale for doing anything of this size and audacity is at least ten years.

If middle term refers to two or three years from now, we should design new tests for basics -- mathematics and language -- which can stand tough scrutiny. Procedures for making such tests will differ completely from the procedures used for making the present commercial, standardized, norm-referenced tests. Project TORQUE at EDC is one way to go; there are others. We should also begin to learn how to manage testing for some of the "tapestry subjects." However, they are second in importance to the basic subjects in the middle term period, even though they include the natural sciences.

> In the short range, I believe that we can forego national tests for the present, until a new process is established. We can use the interlude to explain why a moratorium is necessary, what were the inadequacies of the past national system of testing, and what are the prospects for more effective and safe measurements to help the people who deal with students day after day.

All of this applies directly to Admiral Rickover's proposal to your committee. If we were to make national tests of competence which are no better than most of the tests in use now, they would be an impediment to American education, another stumbling block in the path of teachers and students. Not only would we still have no valid national measures, but the schools' efforts to have their students do well on these tests would surely misdirect efforts away from a sound education.

On the other hand, once we have learned to make good tests in all of the important subject areas, then national competency tests will be worth pursuing.

A brief comment by way of introducting some recommendations, again quoted substantially from the letter to NIE.

> I have often argued that federal leadership and finance are indispensable to the kind of nationwide program that has been discussed here -- *and* vice versa. That kind of program is indispensable to the federal leadership because it alone has federal dimensions. This common interest has to be recognized if we are to resume the forward momentum of the late 50s and 60s and build on the creative successes that flourished then, and which

showed for the first time that a truly nationwide effort was feasible.

At the same time one cannot say too often that the Federal Government should not be allowed to dominate the content of learning in the schools. But then neither should publishers of textbooks and tests. There is a clear need here for constructing an appropriate system of checks and balances, which the public will have to understand if it is to have confidence in the enterprise and to support the necessary funding.

I would like to suggest a precedent. In almost all the fields of technology, the Federal Government provides public access to new devices -- new computers, new hearing aid components, new pesticides, new aircraft. The public chooses what it wants to buy. Federal leadership, yes. Federal domination, no. Pluralism and diversity are the only way to avoid a French system of centralized education.

So saying:

1. Responsible officers of three appropriate agencies, USOE. NIE, NSF, should meet to plan how the Federal Government should again start providing useful, properly systems-engineered alternatives to presently available curriculum materials for use in the schools. This group should plan how to effect this recommendation, not whether to do it.
2. The National Institute of Education, or other government agency, should take responsibility and corresponding authority for provision of tests for all necessary purposes and all appropriate groupings of students. Such tests should be regarded as

alternatives to any tests that other sources see fit to provide.

3. The NIE, or some other agency, should sponsor a continuing *survey* of the whole testing industry, starting immediately -- what is produced and how, how it is marketed, and how it is used and misused. Such a survey will have to be independent to avoid conflict of interest on the part of NIE between generating sets of tests by grants and contracts, and monitoring the tests of others. The general approach of this survey should be much like that involved in validating a pharmaceutical product for its usefulness and its harmful side effects. Legislation will probably be needed. (An aside: Rather no tests than tests that are harmful to people.)

4. The Sting: Federal legislation and appropriations should get under way soon. (The timing is obvious, with a new administration, not to mention an influential Vice President who has shown special interest in early education while in Congress.) In the interim the agencies involved should find enough presently available money to start the process.

One final caveat: The staff members of the various government agencies involved in a process of this sort must sincerely want to make the projects happen; and must want work of the highest quality. This means using the best people at every stage. The military departments know how to do this. Educators must learn how, again.

Yours very truly,

Jerrold R Zacharias

Jerrold R. Zacharias

JRZ/ml

cc: The Honorable Mary F. Berry
The Honorable Joseph A. Califano, Jr.
The Honorable Patricia A. Graham
Admiral Hyman G. Rickover

Senator PELL. That concludes today's hearing. We stand adjourned.

[Whereupon, at 11:05, the subcommittee adjourned.]

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